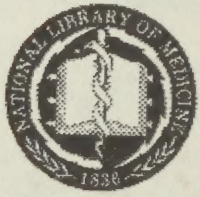
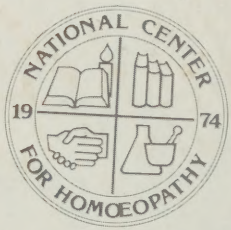
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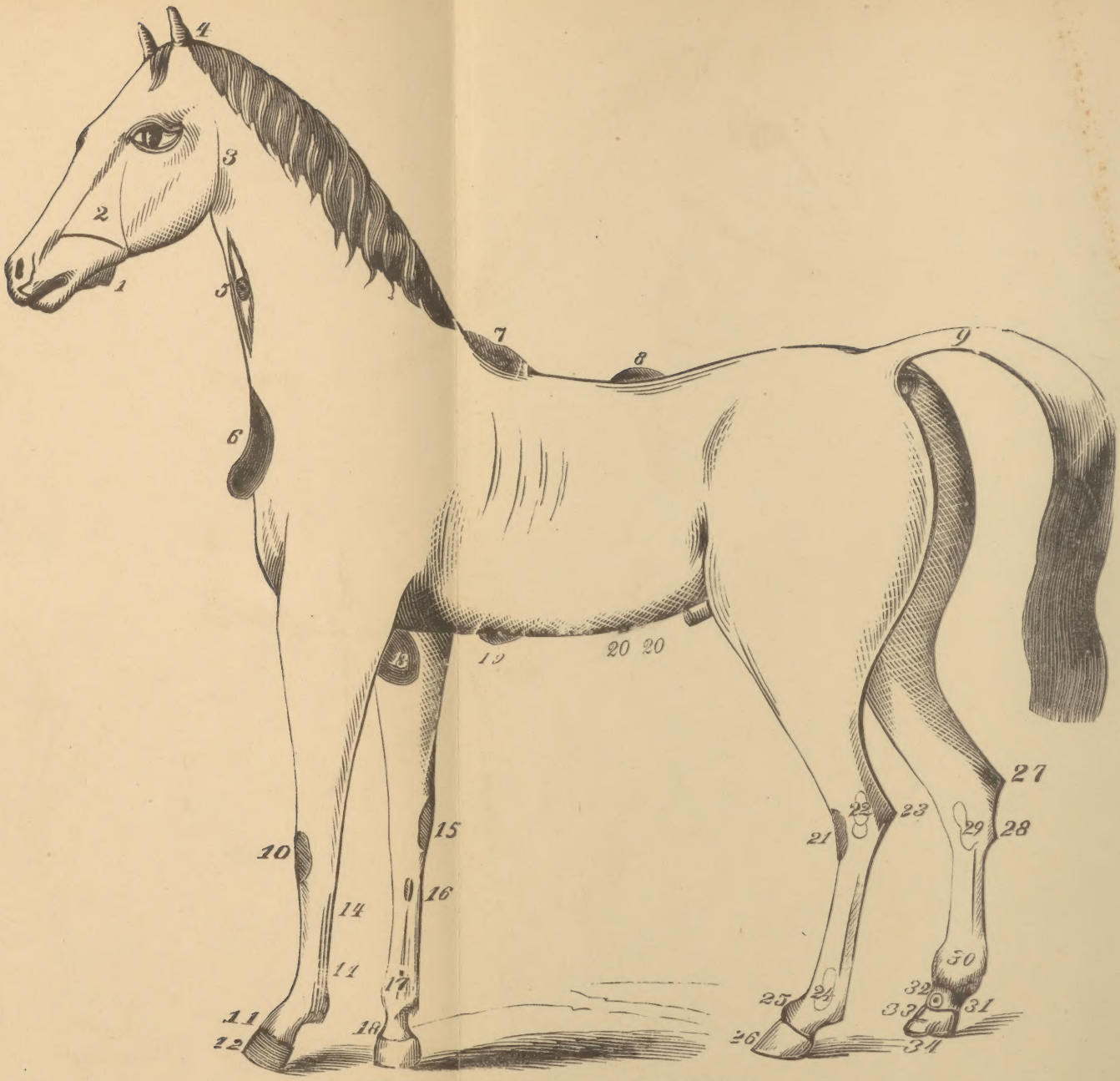


FIGURE OF A HORSE,

SHOWING THE EXTERNAL DISEASES.

1) Dental Fistula; *2*) Salivary Fiscula; *3*) Mumps, Parotitis; *4*) Swelling of the Neck; *5*) Veinous Fistula; *6*) Fungus, caused by pressure from the harness; *7*) Fistulous Withers; *8*) Injuries caused by pressure of the saddle; *9*) Rat's-tail; *10*) Fungus on the knee; *11*) Crown-scab; *12, 12*) Contraction of the Hoof; *13*) Tumor at the point of the Elbow; *14, 14*) Curb; *15, 21*) Malandres; *16*) Exostosis; *17, 22, 24*) Bursal Enlargements; *18*) Timber toe; *19*) Injury from pressure of the girth; *20, 20*) Warts; *23, 27*) Chapped Hock; *25*) Ringbone; *26, 33, 34*) Cracked Hoof, Sand Crack; *28, 29*) Spavin; *30. 31*) Cracked Heel, Grease; *32*) Coronal Fistula

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NEW MANUAL

OF

HOMŒOPATHIC

VETERINARY MEDICINE,

AN EASY AND COMPREHENSIVE

ARRANGEMENT OF DISEASES,

ADAPTED TO THE USE
OF EVERY OWNER OF DOMESTIC ANIMALS, AND
ESPECIALLY DESIGNED FOR THE FARMER LIVING OUT OF THE REACH OF
MEDICAL ADVICE, AND SHOWING HIM THE WAY OF
TREATING HIS SICK

HORSES, CATTLE, SHEEP, SWINE AND DOGS,

IN THE MOST SIMPLE, EXPEDITIOUS, SAFE AND CHEAP MANNER.

BY

J. C. SCHÆFER.

TRANSLATED FROM THE GERMAN, WITH NUMEROUS ADDITIONS
FROM OTHER VETERINARY MANUALS.

BY

CHARLES J. HEMPEL, M. D.

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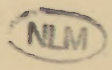


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PREFACE.

It is of great importance to every owner of domestic animals to be acquainted with the best treatment to be pursued in case they should be attacked by sickness. This is particularly necessary to farmers, who have not always an opportunity of consulting veterinary surgeons, and are sometimes obliged to have recourse to quacks and ignorant cow-leeches for want of better assistance. Many shepherds may acquire a very fair knowledge of the diseases to which animals are subject, and may know how to treat them; but we would caution all farmers against using any of their incantations, which are unfortunately still resorted to by ignorant persons. They are powerless either for weal or for woe, except that they frequently prevent the employment of more rational remedial treatment.

A work of this kind is intended to do away with the belief in charms, and to enable every owner of domestic animals to treat them himself without being obliged to send to a distant city for a veterinary surgeon, who seeing the animal for the first time, either standing or lying down, and not knowing anything of its character or habits, runs the risk of misapprehending the nature of the disease, and instituting a wrong or inadequate treatment.

The owner of an animal, who sees it every day, feeds it, knows all about its habits and characteristics, is much better able than a stranger can be to judge what ails the animal in case of sickness. But even supposing that the surgeon would never make a mistake, there are diseases to be met without loss of time, and where death would most probably take place before the arrival of the farrier from a distant place. Such a disease, for instance, is anthrax, which invariably terminates fatally if the spleen or some other internal organ is first destroyed by the disease.

A great many diseases of domestic animals which, by delay of treatment, become obstinate and difficult to cure, would yield at once if proper treatment were instituted from the beginning. Colic, for instance, is easily cured at the outset, but, if neglected, it becomes an inflammatory disease in a few hours; and this is the case with a great many other diseases.

The breeding of stock is a principal branch of agriculture, which is itself the most important business of man upon which the prosperity of society depends. No agriculture can prosper without a good and improving stock of cattle, and it is just as important that a farmer should know how to treat the diseases of his horses and cattle, as it is important that he should be fully acquainted with the business of breeding. A knowledge of the treatment of diseases of domestic animals is easily acquired, especially if the farmer is willing to study homœopathic books which teach him the means of curing disease in the simplest and cheapest manner. At first he may apply to better informed individuals whenever his own knowledge seems insufficient; by

commencing with simple experiments he will soon learn to get along in most cases. Any one that has once witnessed the astounding effects of homœopathic treatment, will never again be willing to go back to the troublesome, expensive and complicated system pursued by allœopathic surgeons.

It may be proper to explain how this little work was first called into existence. The author's father found it necessary to make himself acquainted with the medicines required for the treatment of domestic animals, which he succeeded in doing, with the assistance of his physician, Dr. Wohleben. His neighbours did the same and after-a-while he obtained quite a reputation as veterinary surgeon in the neighbouring district. His sons had to copy, each for himself, the notes which he had collected, and which amounted to some three hundred pages. Twenty years ago our family physician embraced the homœopathic system of treatment, and our father was induced by this excellent man to try his mode of treatment on his domestic animals. The results were eminently satisfactory. The author of this treatise arranged a little work which was to serve as a guide in the treatment, and for this purpose he availed himself of various practical publications on the subject of veterinary surgery, and consulted at the same time several standard works on homœopathy. This little work was used as a guide by the association of farmers that had been formed with the co-operation of the minister of our village, and who procured a homœopathic medicine chest, to which every member had access on payment of a very small sum every now and then for the sake of replenishing the stock. Such an

association is eminently useful, and might be formed in every district, if some public-spirited member of the community would start the project, and help to carry it out.

This little work gradually swelled into the present volume, which, by the request of a number of persons, has been arranged for publication.

We have divided the work into three sections. The first section contains some necessary remarks concerning the nature and breeding of horses, cattle, sheep, swine, and dogs; the second section furnishes a general explanation of the principles of homœopathic treatment, and contains a list of the remedies used for this purpose, and the third section contains, in alphabetical order, a list of the diseases to which domestic animals are liable, and describes their homœopathic treatment. The treatment of a disease is the same, with slight modifications, in the various classes of domestic animals; hence, in order to save useless repetitions, it has been deemed advisable to put every thing relating to the same disease, together in the same article, under one heading. The advantages of alphabetical order, it would seem, speak for themselves.

With these few remarks, I take leave of this little work, recommending it to the kind indulgence of the reader, and trusting most sincerely that it may prove an useful contribution to the department of veterinary surgery.

THE AUTHOR.

PREFACE.

The blessings of Homœopathy are no longer the exclusive property of man; the irrational brute has become the partaker of this great gift of God to his creatures. All curable diseases of our domestic animals yield to the action of Homœopathic agents as readily as the diseases of man. A number of works have been published during the last ten years on the subject of Veterinary Homœopathy. Among these, the recent work of Schæfer, which is now offered to the American public in an English dress, is particularly distinguished by its eminently practical character. In the description of the diseases which will be found arrayed in alphabetical order, all unnecessary and learned technicalities have been avoided, and the symptoms for which particular medicines are recommended, are indicated with great clearness and completeness, although, also in this respect, all trifling indications which merely serve to complicate the difficulty of selecting a suitable remedial agent, have been omitted. For the convenience of the reader, the dose of the medicine which is the most appropriate in the various diseases described in this work, has been mentioned wherever it seemed neces-

sary and feasible. In order to render this work as complete as possible, a good many interesting and highly useful additions from Guenther, Haycock, Youatt and other writers on Veterinary Surgery and Medicine, have been incorporated in this work. If, in spite of our best efforts, the work should still have remained more or less imperfect, all we can do is to crave the reader's indulgence, and to assure him that any omissions or defects which will be pointed out to the editor of this American publication, will be thankfully noted and corrected in future editions.

CHARLES J. HEMPEL.

Philadelphia, April, 1856.

HOMŒOPATHIC VETERINARY MANUAL.

SECTION I.

NECESSARY REMARKS CONCERNING THE BREEDING OF HORSES, CATTLE, SHEEP, HOGS AND DOGS.

PREFATORY NOTICE.

THE object of this work is to teach the treatment of diseases of animals. Inasmuch as the prevention of sickness is always preferable to the cure thereof, it may be advisable to furnish all the most essential information concerning the general management, breeding, keeping, feeding and use of animals; these various details have a great influence on the health and usefulness of animals, and it is eminently desirable that every owner of stock should be acquainted with this sort of information.

I. THE HORSE.

One of the noblest and most useful animals, affords us countless advantages; it was tamed and domesticated at an early period in the world's history, and, by culture, the wild horse which, in its original condition, was fallow, covered with long hair, and resembling the ass in shape, has been transformed into a beautiful animal which is now spread all over the globe, although existing in a variety of races.

The price of a horse depending upon his age, increasing with his growth and with the attainment of his full strength, and decreasing again with his decline, it is of great importance to be able to ascertain the horse's age as nearly as possible.

1. Age of the Horse.

It is judged from his teeth, and from certain external characters, the marks on the teeth, hair, etc. *A few days after birth* the foal cuts four front teeth, two above and two below; and shortly after four more on each side, adjoining the former. Up to the age of nine months, the horse cuts four additional teeth in the same order, and these twelve teeth are termed *milk teeth.* At the age of two and a half to three years, the animal sheds the first four milk teeth, and four somewhat darker colored teeth, termed incisors take their places. At three years and a half or four, the upper and lower two milk teeth adjoining the former, fall out and four permanent middle or central teeth grow out instead. At this age stallions cut their canine teeth, which begin to lose their sharp edges when the horse is six years old, and, at the age of ten, have become quite blunted. In mares the corner teeth are either wanting or they are very short. The last milk teeth are shed at four and a half or five years, and are replaced by the corner teeth. From this period the age of the horse is judged from depressions on the permanent teeth termed marks. The older the horse the more the marks become worn and effaced; and, inasmuch as the lower jaw is used more than the upper, the marks on the lower teeth are obliterated sooner than those on the upper. At five and a

half or six years, the marks on the lower canine teeth are entirely effaced; at six and a half or seven years, they disappear on both the lower central teeth; at seven and a half to eight years, on the lower corner teeth. At eight and a half or nine, the marks on the two upper incisors become obliterated; at nine and a half to ten years, they disappear on the two middle teeth; at ten and a half to eleven, on the two corner teeth; at eleven to fifteen both the upper and lower middle and corner teeth become blunted and triangular. At fifteen to twenty all the middle and corner teeth become flat, and obliquely inclined towards the muzzle; they look yellow and are covered with sordes. At the age of twenty and upwards, the teeth become more and more flattened, worn even as far as the alveoli, and completely oblique. Other signs by which we recognize an advanced age of the horse, are sinking of the orbits, whiteness of the hair, especially about the head, long and gray hairs in the eyebrows, rough and uneven hoofs, etc. The horse may live to thirty years and upwards.

2. Precautions to be observed in buying a Horse.

In buying a horse, the greatest precaution is necessary lest the purchaser should be cheated; for every part of the horse's body is liable to defects and derangements. It behooves us, therefore, in examining a horse, not to be in too great a hurry, especially if we have to deal with cunning and bold dealers, or jockeys who know how to disguise the faults, peculiarities and age of the horse, and who manage to deceive the purchaser by all sorts of tricks.

The horse should be examined in the stable, whether

he is gay and sprightly, from which we may infer the enjoyment of good health; or whether he is sad and the head is hanging down under the crib, which would show internal disease. Fodder should be placed before him, which he must eat with a good appetite, without biting the crib; nor should any morbid-looking slime remain adhering to the crib.

The eye should be examined in the stable near the open door, where the horse has to be conducted. The eyes must be bright and clear; in the dark the pupil has to dilate and to contract again in the light: the best way to find this out is by holding the hand over the horse's eye and then suddenly removing it, in consequence of which the sudden action of the bright light will cause the pupil to contract. The little fungusses which are located in the anterior corners of the eyes, must not cover the pupils. If the eye is not possessed of these requisites, we may conclude that it is diseased.

Amaurosis is a peculiar defect of the sight, which is only known to connoisseurs. This is a complete loss of sight, with immobility and permanent contraction of the pupil, although the eye looks bright and clear. As regards the parts surrounding the eye, the lids must be free from ulcerations, the canthia and lachrymal bones must not exhibit any bald spots, and the orbits must be lean. The jaws should be narrow and lean and not too close together in front; the nostrils should be wide and open, and of a bright red within; the muzzle must look bright and foamy; the tongue and palate must not be injured; the teeth and gums have to be sound, for horse-dealers frequently resort to tricks in order to turn the appearance of these parts to their own advantage

By knocking off or pulling out the middle four milk-teeth, two in the upper and two in the lower jaws, horses of two years old may be made to appear three years, and, by pulling out the next four milk-teeth, horses of three years may be made to appear four years old. This fraud may be easily discovered, because the milk-teeth can never be pulled out entire with the root, and the permanent teeth do not show themselves in the sockets in their rudimentary beginnings, as is the case when the milk-teeth are pushed out naturally by the permanent teeth. On the other hand, cunning dealers know how to make horses of twelve years old appear like horses of seven or eight, by filing the teeth even, and by making artificial cavities on both corners, and frequently also on the middle teeth, and afterwards imparting to them a natural color by means of the nitrate of silver. Lest this fraud should be discovered, they rub the mouth of the horse with salt, in order to render a careful examination of the teeth in the working and frothy mouth of the horse impossible.

In some horses the teeth always indicate an age of six or seven years. Such horses are known by the upper jaw overhanging the lower, in consequence of which the teeth do not press against and cannot be rubbed against each other, and the marks do not become effaced. The shape and length of the teeth differ materially from those of a horse that is really six or seven years old; for in old horses the teeth are stronger, rounder and furrowed, whereas, in young horses, they are flattened and short. (See the preceding chapter for the diagnostic signs concerning the age of horses.) After this the horse should be taken on firm ground, and a careful

examination should be made, whether he is afflicted with any of the defects indicated in the figure opposite the title page, or whether any other defects are discoverable; whether the fore legs are too close together near the chest, or whether the feet are turned outwards; whether the spring-joints of the hind legs are not too much curved, and whether the fetlocks are not generally too stiff or awkward; whether the hoof, which is a most important part of the body of a horse, is too full, too flat, split, contracted, or ulcerated, all of which are defects that may have very unpleasant consequences. Afterwards the horse should be made to walk and trot with a view to observing the character of his movements, whether they are easy or limping, whether the legs are moved along in regular order, the horse is sprightly, and whether some of the abovementioned defects may perhaps be discovered by this means. Immediately after exercise, the horse must not draw breath with widely dilated nostrils, or with the sides drawn up, or moved with redoubled quickness; nor must he cough hard or hoarse, as if the air-passages were sore or inflamed, or as if he would suffocate. Such a condition shows that the lungs of the horse are diseased, spasmodically irritated, more or less disorganized, and points to a state of things termed *broken-winded.*

Moreover the whole shape of the horse has to be considered, inasmuch as the price of the horse depends upon it; in this respect the use to which a horse is to be put has to be considered; for agricultural purposes, for instance, the most beautiful horse which is perfectly free from fault, but skittish or otherwise intractable may be useless; on which account it would be advisable to take

the horse that one wishes to purchase into one's own stable for a few days in order to have an opportunity of trying him and watching him at the crib.

Finally, we have to mention a few tricks which are frequently resorted to by horse-dealers in order to facilitate the sale of a horse. These tricks are *anglicising*, *dressing*, *peppering* and *whipping* the horse. By anglicising a common horse he is made to look nobler, for by bending and stiffening his tail the pendent quarters and the hollow back become straighter, the slovenly gait is steadied, and the horse looks more sprightly.

Dressing the feet, manes, and particularly the inner ears, is a great means of embellishing the horse; for the horse seems to acquire a more imposing posture, the neck looks more slender and graceful, the hearing becomes more acute, the animal is more attentive to everything that is taking place around it, and the pendulous ears look more erect.

By inserting a few grains of pepper into the anus of the horse shortly before an examination, he is made to carry his tail like the noblest animal, his gait is more nimble, he looks sprightly, and seems more valuable than a common horse.

The effect of the whip is well known, and is particularly useful in the hands of an experienced jockey. In purchasing a horse, this point has to be well considered lest we should pay for an apparent value which would disappear again sooner or later and leave us to regret our money. Hence I advise those who do not understand this business to consult an experienced and trustworthy friend instead of depending upon their own judgment in such a dubious matter.

3.—Shoeing.

Improper shoeing is very often the cause of a defect in the hoof. It is of particular importance that the sides should not be rasped off too much or that the sole should not be cut out too much, nor that the shoes should be burnt on too continuously, as shoe-smiths are too much in the habit of doing. The shoes must neither be too heavy nor too coarse, they ought to be of equal thickness and be applied equally to the horny part of the hoof. There are several methods of shoeing, and everyone prefers his own method to any other; but it is evident that no general rules for shoeing can be laid down, but that the method of shoeing depends upon the shape and condition of the hoof, upon its defects, upon the posture and movements of the horse, upon the uses to which he is put, and upon the character of the ground where he is to be used. This shows that a good horse-smith will not allow himself to be guided by one particular method, but by his own sound judgment and by his knowledge of the correct proportions and conditions of a hoof; he ought to be well acquainted with the forging and turning of the shoe, impart a proper shape to the hoof when cutting it, and apply and fasten the hoof with correctness and discrimination. Suggestions concerning the shoeing of faulty hoofs, will be offered in the various chapters where the diseases of hoofs are treated of.

4.—Breeding of Horses.

The breeding of horses is of great advantage, especially to agriculturists, and is deserving of more attention than has been devoted to it heretofore. By breeding

one's own horses, one not only saves considerable sums of money, but self-bred animals are generally healthier than those that come to us from foreign countries, the former being used to climate and our mode of feeding, and the latter being frequently heated on the road, and while heated, drinking to excess, and being otherwise exposed to wet and cold. We know from experience that this kind of exposure frequently results in disease and death. By attending to the breeding of horses, the farmer may obtain a stock of active, vigorous, well-shaped horses, and may, from time to time, sell young horses that cost him little or no outlay in money. It is a mistake to suppose that a mare with foal is unable to do work on the farm. On the contrary, experience has shown that mares in this condition are better able to perform their work than previously; they are quieter and more submissive, they act better, and, with proper quality and quantity of feed, look better than they do if without foal. Of course, mares with foal should have proper treatment; but this is necessary to all horses.

To breed horses advantageously, a good mare is required above everything else. She ought to be well made, have a well-shaped head, a neck which is not too short and a little bent, thin manes, a broad chest, round and flat quarters, a slender body, sound hoofs, regularity of posture and gait, and no hereditary defects or bad habits, such as spavin, bursal enlargements, diseased eyes, tumors on the fetlock, vertigo, crib-biting. The stallion likewise has to be chosen with particular reference to such defects. The best period for covering the mare are the months of February, March or April; for,

in this case, the foal, which the mother carries about eleven months, will be cast during the months of January, February, March, during which period little or no work is done with horses, the mares have rested from their summers-work, and the foal can suck without being interfered with.

The period when the mare conceived should be noted; for, in this case, we can know when she will foal, and we have a chance to be present, which is well. Although labor generally takes place quite rapidly, and without the assistance of man, yet there are cases where art has to interfere (compare the article Labor). If the foal is born, and the cord is not separated, a ligature is applied to it two inches from the abdomen of the foal, after which it is cut about an inch from the ligature towards the abdomen of the mother. Foals generally are enveloped in a strong skin, which is at once divided, and the muzzle and nose of the foal are cleansed of their tenacious mucus. After birth the foal is placed before the mare that she may lick it; as soon as it is able to stand, it goes to the udder of its own accord, but may be assisted in so doing. It is rare that the mother dislikes the foal, and keeps it away from her by biting and tossing. In such a case she has to be tied, her hind-legs have to be separated with tight cords, and the foal has to be kept to the mother until she has got used to it. On the ninth day after parturition, sometimes at a later period, the mare may again be put to the stallion; at this time she is generally in heat, and ready to admit the stallion. She does not always take after the first spring, and, therefore, has to be tried again on the ninth day after the last spring, until she

kicks the stallion away from her. If necessary, the article "Sexual Instinct," may be consulted.

The foal is allowed to nurse during the period of three months, during which time the dam should have a sufficient quantity of light, but nourishing food. If the mare should cast her foal a little after the time, and should be required for field work, she may be harnessed from time to time without injury. Unless required by particular circumstances, weak eyes, vertigo, heated temperament, etc., all of which conditions are either diminished or disappear entirely during pregnancy, no mare should be put to a stallion before her fourth year; previous to this period the body is not yet sufficiently matured for the purpose of breeding sound, vigorous stock. Either sex remains good for breeding purposes to an advanced age. Mares of upwards of thirty years old are known to have cast foals. If the dam is taken away the foal should be well supplied with cut hay mixed with a little oats, and should be given bran or oat-meal water to drink; for good care and diet, especially during the first year, are essential requisites to render them strong and well developed. In the fall season cut carrots or cabbage mixed with the feed, are a very healthy diet. It is well if the foal can run about in the stable in perfect freedom; the stable has to be kept clean, well littered, airy in the summer, and warm in the winter; the manure ought to be frequently removed. If a good pasture be near by, it is advisable to let the foal go with the dam; by this means it preserves or gets used to a straight posture and steady gait; whereas if continually remaining in the stable, the fore-feet frequently get used to a crooked posture; in order to

accustom the foal to a straight posture, it is sometimes necessary to work the hoofs a little outward.

Climate, soil and locality exercise a great influence over the shape and disposition of horses, if they are bred through several succeeding generations under the same influences. Man's influence on domestic animals is no less important; man's care, the diet which he imposes on animals, etc., modify both the shape and the qualities of the horse. If the parents are of different colors, the foal generally shows a transition color; for instance, black and brown gives rise to a black brown color, but the foal never shows a checkered appearance from such a combination of colors. This kind of color is a peculiarity of the race, hence hereditary, and may be transmitted to posterity like every other peculiarity of the race. The characteristic signs of horses are readily transmitted, unless modified by the selection of the breeders; some colors, such as fox color, seem to be transmitted more readily than other colors.

5. Feeding and management of Horses.

The feeding and management of horses have an essential influence on the preservation of their health, efficiency and vigor. Hence a careful supervision of the horse is of the utmost importance. If the care of horses is entrusted to servants, they should be enjoined to report at once every little irregularity; to observe a proper caution both as regards feeding and cleanliness, and not to overwork the animal. In travelling, these precautions are still more necessary.

The best feed in the summer season, when the farmer has to perform his work in the field, is oats with a little

chaff, or instead of the chaff, straw and sainfoin or clover-hay in the day-time, morning, noon and evening, from two to two hours and a half, and a sufficient quantity of hard hay, or in the absence of hay, esparcet or clover may be placed in the crib for the night. The quantity of grain for a working horse depends upon the quantity of work he has to do, and may vary considerably. As a general rule, a working horse should have feed enough to keep up his full strength. If the horse have little work to do, it may be both economical and advantageous to feed him less, and to increase his rations again if more work should have to be performed. If, in order to save oats, we wish to feed the horse on rye, barley, peas or beans, these grains should previously be shelled or soaked in water for twenty-four hours before they are given to the horse.

In the winter season, when the farmer's horse has no work to do, clover, hay, bran, etc., may be sufficient feed. The stable should always be kept clear of cobwebs and manure; nor should any poultry be kept in it, because fowl are apt to mix their own impurities among the horse's feed, rendering the horse which eats of them liable to be attacked with colic. The air in the stable should likewise be kept pure and fresh, and, to this end, the urine and dung should be removed from the stable at suitable intervals; care, however, should be had, not to expose the horse to a draught of air, either in summer or winter, by day or by night; for the animal is often covered with perspiration, the sudden checking of which might induce unpleasant consequences.

Before putting the feed in the crib, it is proper to

cleanse it. This is particularly advisable when journeying in taverns, where a strange horse affected with mange, malandres, glanders, farcy, &c., might have eaten out of the crib and infect the next comer. In this respect it is not well to give the horse any wet feed, because the contagious matter is much more speedily communicated to the horse by wet than by dry feed. The hay should not be put in the crib until we are sure that no feathers, splinters, and the like, are mixed up with it.

An over-heated horse should not be fed until the sweaty parts of the skin have been well rubbed with dry straw, and a blanket has been laid over the horse; nor should the horse be watered until half of the feed is consumed. If a horse has been very much heated by riding or driving, it is well to walk him about for a few minutes until the animal is cooled down, before taking him into the stable. Some grooms indulge in the miserable habit, when overtaken by a rain or snow storm, in the open field, of seeking shelter behind the horse. This should never be allowed, for the horse generally takes cold in consequence of such exposure, and the owner of the horse never learns the true cause of the animal's sickness. If overtaken by rain, the horse should either be kept in constant motion, or, if the rain should continue too long, the horse may be taken back to the stable, where it should be rubbed with dry straw, and blanketed.

Although it is important that a horse should be curried at least once a day, yet the comb, which is used for this purpose, should never be sharpened with a file. Only the mane, not the tail, should be combed with a comb moistened with fresh water. The tail should be

cleansed by means of wisps of straw dipped in water; combing weakens the tail, and very frequently causes obstinate injuries. If horses have been used in bad weather, the feet should be washed with wisps of straw, and the dirt which is sticking between the shoe and the hoof, should be carefully removed.

Old feed agrees with horses best. Care should be had to prepare already during the winter season the feed which the horse may require in the ensuing summer; nor should the horse be fed before October, on hay that had been made during the last harvest. It is likewise expedient not to feed the horse on recent oats. After horses have gone into winter quarters, it is likewise well, to give them after every meal, for about six weeks, some water in which a handful of linseed had been mixed. The seed should not have been pressed, but simply ground in a mill. This method helps to cure the horses of all colds they may have contracted in the fall, after which they eat their feed with better relish. As a general rule, horses prefer dry feed in the winter, and thrive under it, especially if the feed is moistened at every meal with hay-water.

II. HORNED CATTLE,

WHICH have been known to us as domestic animals from time immemorial, and whose origin and native country are consequently uncertain, constitute at the present day our most useful domestic animals, with whose aid alone we are enabled to execute the labors of agriculture. They may be used for drawing the plough, vehicles, etc.; they furnish the best and the largest quantity of manure; we use their milk, meat, hides, etc.

1.—The age of Horned Cattle

Is known by their teeth, the preservation of which should be an object of care to every farmer, inasmuch as the preservation of the animals depends upon it. Bad teeth or the loss of teeth impede the process of digestion, and impoverish the animal. Hard, sour and warm feed, is particularly hurtful to the teeth. In the upper jaw cattle have no incisors; in the lower jaw they have eight. At birth the calf is generally provided with four incisors. On the seventh or ninth day, it generally loses the umbilicus. At three month's the other four incisors make their appearance, two on each side of the former. Towards the end of the first year the two middle milk-incisors fall out, and are replaced in about a fortnight by two others. Towards the end of the second year the next two fall out; towards the end of the third year those next to the former, and towards the

end of the fourth year the last two. All these teeth are replaced by new ones, which are easily distinguished from the original teeth by their size and lustre. However, the teeth of horned cattle, especially when brought up in a stable, do not change as regularly as those of horses or sheep. At five years, these second teeth commence to alter in the same order in which they had appeared, although not with perfect regularity. The older the cattle, the more elongated, duller, darker and looser do their teeth become; at the age of sixteen or eighteen the teeth have generally all fallen out. At this period, the age of horned cattle, especially of cows, can be determined with more or less certainty by the horns. Until the end of the fourth year, the horns are smooth; from this period a ring-shaped elevation forms around them near the head, and a new ring forms after this period with every year. A smooth horn counts for three years; and to every ring one additional year is reckoned. According to this calculation an animal with seven rings is ten years old. In the ox these rings are less distinct than in the cow. On the other hand, during the year that a cow is without calf, no ring forms on her horns, or, if a ring does form, it is scarcely perceptible. In such a case the interval between the two rings is twice as large as usual, and counts for two years. If the rings should not be very distinct, we may judge of the age of the animals by the condition of the horns themselves, which become thinner towards their roots in proportion as the animals approach their full growth. Horned cattle may attain to the age of twenty years, without, however, remaining equally useful.

2.—Breeding of Horned Cattle.

Large, sound and vigorous cattle are of course the most useful. Such a breed may be obtained by one's own management without procuring expensive foreign cattle. All that is required is, to select the largest and finest calves of the best milch-cows for breeding, to take good care of them in the first two years, to feed them well, and to procure at the same time a well-shaped, sound bull. Well-kept bulls and young cows are perfectly adapted to the propagation of their species, when eighteen months or two years old; they furnish a vigorous breed. Without special reasons, it is not advisable to admit the bull to well-fed cow-calves at too late a period; their young calves grow, indeed, rapidly and vigorously, and become prematurely fleshy, which sudden increase in flesh may be the cause of sickness, and is accompanied with a correspondingly diminished capability of giving much milk.

The period of *rutting*, in cows, does not depend upon particular seasons. If the cows are well fed, they may again be served three or four weeks after calving. If the cow is not satisfied or has not conceived, the desire for the bull returns every three or four weeks. If this period should be passed over several times in succession, conception becomes less certain; it has even happened that cows have refused the bull altogether. (See the article "Rutting" relative to the means of promoting or suppressing the calving.)

During *gestation*, which as a general rule may be considered certain, if the cow after having been served by the bull does not exhibit a renewed desire for the same at the end of three weeks, the cow should be protected

against any kind of violence; otherwise miscarriage, prolapsus, etc., might set in. (See "Miscarriage and Labor.") The day when the cow has been with the bull, should be noted, in order that the period of parturition may be more or less accurately determined. This generally takes place nine months after conception, and, if known, some one may be at hand in order to help the cow if necessary.

After calving the cow should be fed for some time with food that is not too flatulent; she should have feed that acts well on the milk, and should be given water mixed with ground oats for a drink; the calf should have the first milk which, is watery, and acts as a purgative.

For *breeding purposes* the best calves are those which are cast during the fall and winter. Calves that are cast at a later period are apt to suffer from the heat of the summer and from insects, and are consequently less thrifty. After nursing three weeks, the calf is separated from the dam, and is fed for a time on milk, and afterwards on mashes of bran and shorts. Dry fine hay, especially timothy, may likewise be placed before the calf; it will thus become accustomed to eat, after which as was mentioned before it has to be well fed.

3.—Feeding and management of Horned Cattle.

By feeding cattle all the year round in the cowhouse, they not only become more healthy and productive, but the business of agriculture is promoted thereby. When kept in an open pasture the cows are frequently overheated by being chased about, they take cold, have not got a sufficient quantity of water, or at any rate of good

water; they are exposed to cold rain or to the hot sun; in the spring and fall they sometimes eat frozen grass and do not obtain sufficient food, a rich pasturage being seldom allotted to cattle. It is evident that this mode of life is not only injurious to the health of cattle, but that the quantity of milk which they would otherwise furnish is diminished thereby. By feeding cattle in the house they furnish twice the ordinary quantity of manure; a larger number of cattle can be fed off the same surface of soil than in an open pasture; the value of cattle increases, the trouble and expense of keeping a herdsman are done away with, &c. As a general rule, it is only in forest-covered hills that we find pastures which will yield sufficient nourishment during the whole summer, and it is really astonishing that the habit of pasturing cattle in the open air should still be so obstinately persisted in. This custom is derived from a barbarous antiquity, and should be abandoned since the cultivation of clover, grass, &c., has been introduced among us.

In *feeding cattle*, it is of great importance to consider the quantity as well as the quality of the feed; this should be unexceptionable, and they should have enough, for unless the paunch is entirely filled, the feed is never completely digested, nor is the strength which is contained in it completely assimilated. It is evident that, if a cow which requires twenty-four pounds of hay daily, were to be fed without an addition of straw, on eight pounds of grain or on forty-eight pounds of potatoes, which are known to be equivalent to the strength of twenty-four pounds of hay, she would not only decrease in volume in consequence of the small bulk of the feed, but she would likewise

become sickly. This shows that the art of breeding sound and strong cattle depends upon giving them a sufficient quantity of good feed, that shall completely fill their paunches and furnish them the required strength and means of preservation. A certain quantity of feed is required for the mere sustentation of animal life, and it is the surplus feed which is given to cattle over and above this quantity, that serves to promote their usefulness as productive animals, as regards milk, wool, meat, fat, labor and manure. If four cows, each of which should require for its sustenance fourteen pounds of hay, were fed on seventy-two pounds, these four cattle would yield the use of sixteen pounds of hay; but if only three cows were fed on seventy-two pounds of hay they would only require forty-two pounds, for their bare support, and consequently yield the use of thirty pounds of hay. This calculation shows how important it is to give cattle, and especially cows, the necessary quantity of feed, and not to keep more cows than can be adequately provided for. We cannot expect to obtain a good supply of milk unless we furnish them the daily nourishment required for its production. The quantity of nourishment depends more or less upon the size of the cattle, and upon time and other circumstances. A middle-sized cow requires twenty-four pounds of hay every day, or, as an equivalent, forty-eight pounds of common straw, or thirty-six pounds of fodder, or forty-eight pounds of potatoes, or eighty-four pounds of beets, or eight pounds of grains or linseed-cake. Moreover, it would be improper if we would give a cow each of these different kinds of feed separately. We have on the contrary, to calculate the average crop of each, and compound

these various kinds of feed in such a manner that a bulky substance like straw is mixed in for the purpose of filling the paunch to its full size.

A similar method should be observed in the summer when cattle are fed on fresh herbage. They should have three or four times as much herbage as they choose to eat: a cow, for instance, should have one hundred pounds. By continually feeding cattle on juicy grass, which contains a large proportion of water, their bowels are apt to become relaxed, and it is therefore of great use to put in every now and then a little dry straw, which not only prevents the injurious effects of the green grass, but nourishes the animals better than the same quantity of grass would have done. An excessive quantity of green herbage is apt to cause meteorism, and it is therefore of great importance to make sure that the clover, &c., is not frozen, covered with hoar-frost, wet, or has become heated by pressure when gathered in large heaps. It is likewise of importance that the feed which is given at one meal should be divided into three rations, and that about fifteen minutes should intervene between the first and second, and the second and third rations. Nor should the cattle be given drink after, but before the feeding. Cattle should have their regular drink even in the summer, when feeding on herbage that is ever so juicy. It is well to make the drink more palatable by adding a little salt shorts, linseed-cake, &c. There should be no sudden transition from winter to summer, or from summer to winter-feed. In passing to green herbage, it should be mixed up for a time with cut straw, and likewise in the fall a little green herbage should be mixed with the straw which is given in the winter. Unless

these precautions are observed, the health of the animals might suffer.

Their health is likewise promoted by keeping their bodies, cribs and tubs clean, by feeding them at regular periods and giving them their feed in regular order, and by arranging their stables in a suitable manner; these should be high, spacious, airy but without draughts, and they should have an abundance of good light, for no living creature can thrive without these means.

If cattle are used for work, they should be adequately fed and properly treated. Although it may not be advisable on large farms to have all the work done by oxen, because they have a slower gait than horses and hence require more time, which is exceedingly valuable on a large farm, nevertheless it may be perfectly proper to use oxen on a small farm, where a horse would not find sufficient employment during the summer. Besides it is too often the case that old horses are purchased for such establishments, which die in one or two years and have to be renewed by others, thus consuming a snug little sum in a short period. The horses have moreover to remain stabled for about six months, during which period they consume the feed which, if given to cows, is returned to us in the shape of milk. Moreover, cows can more easily be sold than an old horse, and, if necessary, they may be slaughtered and eaten.

Moderate exercise rather favors than diminishes the yield of milk in cows, especially if they show a tendency to become excessively fat. Good hay and, in the summer season, green herbage, are, generally speaking, sufficient for cattle, provided they have enough of it; but if they should have much work to do, they have to

be moreover fed on oats, grain; in the winter season, potatoes, straw, husks, may be given instead of hay. Oxen that do not work in the winter season, may be fed on good straw and hay. Distillery swill and similar kinds of juicy feed, should only be given in small quantities to cattle, inasmuch as they grow weak from the use thereof. During work they should be allowed some rest after feeding, in order that they may be enabled to perform the process of rumination. Cattle are more sensitive to changes in the weather than horses, and should be spared as much as possible during very hot, cold or wet weather, and more particularly when the wind is very keen and cold; excessive fatigue of any kind is exceedingly prejudicial to horned cattle.

4. Fattening of Cattle.

The business of fattening cattle is particularly profitable when associated with brandy distilleries, breweries, beet-sugar factories, etc., although it may likewise be very useful in other respects. Care should be had not to overfeed the animals, and to cause them to assimilate substances which are contrary to their natures as it were. Distillery swill is injurious to the health of cattle inasmuch as distillery swill does not afford cattle a suitable chance of chewing the cud and, on account of its liquid form and irritating and relaxing properties, give rise to a number of abdominal diseases. Hence it becomes proper to mix this swill with a suitable quantity of dry feed at regular periods; by this means the heavy swill becomes more digestible and the appetite is increased. In fattening cattle, the quantity of the feed depends upon the size of the animals, and

upon the quantity of meat and milk that we desire to obtain.

For the *winter season*, boiled potatoes, beets, turnips, and the like, are used for the purpose of fattening. They are mashed while hot, and then put by in a well-covered vessel. At five o'clock in the morning we give the animal one-half of the quantity allotted to it, mixed with cut straw, grain or husks, and a little salt, and as soon as this is consumed, half a ration of good dry feed, hay, barley, wheat or oats-straw, or stalks, is put in the crib. Half an hour later we give a drink well mixed with shorts; afterwards, the second half of the above-mentioned mash, after which we allow the cattle rest until noon, in order to afford them a chance of chewing the cud. At noon we first give them a mash, and then put a good quantity of dry feed in the crib. About half an hour later we give a drink of tepid distillery-swill, or grain-tea, after which the cattle are left alone until evening. In the evening we feed them again as early in the morning.

In the *summer season*, the process of fattening is carried on as follows:—First we give finely cut green clover; at five o'clock a portion of hay or feed-straw; and at six o'clock a strong drink of grain-tea, mixed with a little salt, or sometimes with a small quantity of linseed cake. At noon, between eleven and one o'clock, the cattle are again fed in a similar manner as in the morning, care being had that the feeding be carried on for two hours each time, and the animals be not interrupted in their usual rest. The above-mentioned grain-tea is made of water, in which three pounds of grain have been thoroughly soaked before using it. Three pounds is the

quantity allowed for one animal. Fattened cows become ruttish a couple of weeks after having been well fed. In such a case they should be put to the bull, otherwise the fattening is impaired; but afterwards they should be fattened as speedily as possible—within three months at any rate—before the period of gestation is too far advanced.

III. SHEEP

Have been domestic animals from time immemorial, and are said to spring from a wild animal which is still to be found in Europe and Asia. In the former continent, in Sardinia and Corsica, this animal is termed *muflon*, and in Asia *argali*. Sheep thrive in almost every clime where cold and wet do not predominate. Among the various species of sheep, we distinguish particularly the small Icelandish sheep, with two, four, six, or eight horns; the Arabian and Egyptian sheep, with their fat tails, that often weigh forty pounds; the Hungarian sheep, with twisted horns and coarse wool; the small Luneburg sheep in the north-west of Germany, the females of which carry horns the same as the males.

Sheep-breeding in Germany owes its present high rank to the introduction of Merinos from Spain in the last century. This race is a native of northern Africa, and is pre-eminently distinguished by its fine, soft, curly wool. Soil, climate, feed, mode of life, and crossing the breed, have given rise to a number of varieties. Next to cattle-raising, sheep-raising is a most important branch of rural economy, and is, under appropriate circumstances, even more profitable than the former. On small farms, with-

out first-rate pasturage, it is undoubtedly advisable to raise cattle rather than sheep; the latter yield large profits only when raised in numerous herds. Nevertheless, some sheep should even be bred on small farms, in order not to lose the straw, which is used for spreading; all such straw should first be laid before sheep, in order that the really nutritive parts thereof may be consumed by them for their benefit.

1.—The Age of Sheep

Is known by the changes in their front teeth in the lower jaw. In the front part of the upper jaw the sheep has no teeth, but only a cartilaginous prominence. In the front part of the lower jaw it is born with eight pointed milk-teeth. In the second year the animal loses both the middle pointed milk-teeth, in the place of which two broader teeth grow out which the Germans term *spade-teeth*. In the third year the next two milk-teeth fall out, and are likewise replaced by two other spade-teeth. In the fourth year the two succeeding milk-teeth yield the place to two other spade-teeth, and in the fifth year the last two milk-teeth fall out, and the second growth of teeth is completed. In the sixth year the gums recede somewhat, and the teeth appear elongated in consequence, but they continue to be white and smooth. In the seventh year the teeth commence to become somewhat yellow, broken out at the edges and elongated. In the eighth year whole fragments of the teeth fall off and the teeth look yellow. In the ninth year the two middle teeth generally fall out, and the animal becomes weakly. In the tenth year the animal loses all its teeth, and becomes weak; in some cases.

however, sheep of this age are still possessed of all their strength; the merino-sheep keep their teeth the longest It is seldom that a sheep lives longer than twelve years.

2.—In the purchase of Sheep

We have to consider their age, health and the quality of their fleece. Sheep that are to be kept as breeders, should be carefully examined as to their health, lest infectious diseases, such as mange, scab, foot-rot, shaking, etc., should be introduced amongst them. A sound sheep carries its head high, has lively eyes, a dry muzzle, wool that firmly adheres to the skin and is free from dandruff, firm and strong feet; on approaching a strange object, its attention is excited; its ears are not pendulous, it jumps unhesitatingly over small ditches, does not wander away from its flock, is not infected with a suspicious cough, has no tumors under the jaws, and rejoices in a loud, ringing voice. A chief sign of health is the redness of the veins of the eyes and skin. If the whites of the eyes are no longer traversed by red veins; if these veins are blackish, if the whites have lost their lustre, and small lumps are formed in the corners of the eyes, we may conclude that the sheep is not well. Another sign of ill health is the paleness and dryness and roughness of the skin in the region between the shoulder-blades, which signs may be discovered on parting the wool; a pale and wilted appearance of the inner mouth and gums is another sign of ill health.

The quality of the fleece and the external peculiarities of the sheep, can be best ascertained by buying the sheep before they are shorn. Such sheep are the best as are covered with a dense, woolly fleece, so that the

hide on the back cannot be reached by the finger; even the head as far as the eyes, and the feet as far as the hoofs are covered with wool, and the skin of the neck, back and posterior parts is in folds and padded, which latter quality is peculiar to the merino breed. If sheep with a dense and close fleece get wet, the wool is raised up in rows. Sheep with a fine, soft, delicate and thin fleece are less desirable, both because they furnish less wool and are less vigorous. If they get wet in the rain, their wool is laid straight on their backs.

3.—Breeding of Sheep.

In order to facilitate the rearing of lambs, it is generally speaking advisable to cause the sheep to yean in the winter, when the sheep live in the stable and can be properly superintended by their owners. The best season for yeaning is the month of February, for this will afford sufficient time to prepare the dams for the suckling of the lambs, and by spring the lambs will have acquired sufficient strength to go to pasture with their dams. Inasmuch as the dam carries her young five months, the tup should be admitted to the sheep in the month of September. The quality of the tup is of great importance as regards the quality of the breed. It is the interest of the breeder that the sheep should be as large as possible and furnish fine wool. This result is most easily and cheaply accomplished by selecting large, well-made and strong tups, provided with a fleece such as has been described in the previous chapter. But even should the fleece be satisfactory, it should always be of a superior quality to that of the female, otherwise the quality of the breed would deteriorate. On farms where inferior

rams are used for breeding purposes, the breed invariably loses in quality. Fifty dams should be allowed to one tup, and it is expedient never to allow more than two by two rams in succession among the herd.

During gestation the sheep should be carefully protected against all violent usage, such as beating, pushing, chasing, leaping across ditches, squeezing through narrow gates, &c. They should have sufficient feed though not to excess. During the period of lambing the sheep have to be carefully watched, for they sometimes require assistance during parturition. If a dam refuses to admit the new-born lamb, which does not unfrequently happen when dams bear for the first time, the best way to accustom the dam and the little lamb to each other, is to confine them together in a very narrow box. Sometimes it is sufficient to hold the lamb for a time. If the lambs are a few weeks old they are fed on fine hay, oats, &c., put in wicker-baskets with sufficiently large interstices between the canes to admit of the little animals passing in and out. They thrive under this mode of treatment. At this period the male lambs which are not to be used for breeding purposes are castrated, and the female lambs have their tails cut off to the distance of a few inches from the buttocks. After these operations, which every experienced shepherd knows how to perform, the lambs should be tended with particular care. Castration should only be resorted to in very large establishments where the raising of sheep is carried on according to approved principles.

Although the process of cutting off the tails of the female lambs is pretty generally established, yet it is rather hurtful than otherwise, and barbarous withal. The

first inducement to this custom was probably derived from the idea that the tail was supposed to be an obstacle to successful intercourse with the ram. This, however, is a mistake, as we know from abundant experience. Every thing in nature is wisely provided for. The end of tail which is left remains long enough to cover the pudendum, so that a long tail is no greater obstacle to the admission of the ram than a short one, provided the female is at all desirous of being served. At any rate, cutting off the tail involves an absolute loss; one would be astonished if one could see, all on one heap, the quantity of wool which is lost every year by this ridiculous and barbarous operation. In the spring the lambs follow their dams to pasture, where they are allowed to remain until the middle of July, when the lambs are separated and conducted to separate pasturage.

4.—Feeding and Management of Sheep.

In order to derive as much profit as possible from sheep, they, as well as all other domestic animals, have to be well fed, and in sufficient quantity. On the other hand, we know from experience that feed which is too rich, or too succulent, bears no proportion in value to the quantity of wool produced, and that it may even give rise to many troublesome diseases. The best plan is to keep the sheep in good condition as regards their flesh, and to guard them against either extreme, of an excessive quantity or a deficiency of fat.

During the winter, lambs of one year should be kept in a separate shed, and well cared for; both the size of the animal and the quality of the fleece depend, in a measure, upon this proceeding. Sainfoin, or clover-hay,

and delicate straw, are the most suitable feed for these young animals.

Dams should likewise have good and succulent feed, so as to enable them to make a sufficient supply of good milk for their lambs; for bad, viscid milk is apt to give rise to paralysis, which is such a pernicious disease among lambs. Good hay, dry sainfoin, or clover, once or twice a day, and two or three times some straw, is the best feed for dams. Roots, previously well washed and finely cut, tend very materially to thin and sweeten the milk.

Sheep which are not to be used for breeding purposes, are sufficiently cared for, if they are fed in the day-time on corn, wheat, and oats-straw, and in the evening on the husks of peas or beans; if it should be feasible to give them green herbage once a day, it is all the better.

The most appropriate kinds of feed for sheep are as follows: *Straw;* 1. This is a main feed on every farm where sheep are raised; a sufficiency of straw will not only save a considerable outlay for succulent feed, but when given as an intermediate feed it is likewise very useful as a means of preserving the health of the animals. 2. Meadow hay, clover-hay, timothy-hay, &c., is the most suitable hay for sheep, provided it has been put into the barn in proper condition, and is not musty or mouldy. 3. *Roots and bulbs* are good feed, after they have been washed and cut in small pieces. They may be given with or without an admixture of cut straw; but if given without, straw should be given at intermediate periods, for this is essential to the preservation of the sheep. 4. *Dry foliage* is also good feed for sheep, especially after short crops. Every kind of foliage, oak, beach, linden, ash,

poplar, alder, willow, &c., may be used for such a purpose. A quantity of good foliage may be obtained every year, if the brushwood which is cut down for fuel, is arranged in heaps with the leaves upwards, until it is perfectly dry, after which it may be carted to the shed, and kept without getting mouldy. 5. *Finely cut straw and hay*, &c., helps to feed sheep, and to render succulent and watery feed more digestible. 6. *Distillery swill*, as a general rule is not suitable to sheep, and should at most only be given to animals that are not used for breeding purposes, and to these only in small quantities, and mixed with finely cut straw. This kind of swill should not be given to dams, for it gives rise to a variety of diseases, and weakens the breed. 7. *Grain*, is very good feed for sheep, but too expensive. If there is a deficiency of the other kinds of feed, herbage, &c., grain has to be resorted to. Generally sheep are fed four times a day, the poorest kind of feed being given first, by which means the appetite is kept up. Straw-feed, a bundle of which is given to ten sheep, has to be turned about in the crib after the lapse of an hour, and, if all fed out, has to be tied up again, and used as litter for other cattle.

Drink should never be wanting; the water should always be clear and fresh, and a little linseed-cake or grain may be added to it; this renders the water more palatable and promotes the secretion of milk during the period of lactation. The shed should be light and airy.

In the summer it is generally more advisable to feed sheep at pasture; keeping them in the stable is a troublesome and expensive business. The best pastures are meadows in hilly districts with clay bottom. In low

and damp meadows some parts are frequently inundated and furnish a luxuriant growth of grass. All such places have to be carefully avoided by the sheep, because this kind of herbage is apt to cause the rot. In wet weather, which is particularly injurious to young sheep, they should be kept in the shed and fed on dry stuff, were it nothing but straw. If there should be a deficiency of herbage after the crop or otherwise, an additional supply of feed has likewise to be provided in the shed.

During warm and dry summer-nights, sheep may be kept in the open field over night; this does not injure their health nor their fleece, and increases the productiveness of the soil; in cold and rainy nights, sheep suffer a good deal, and the dung, being stamped into the ground, is of no use as manure.

In *washing the sheep*, the fleece should be thoroughly washed, without, however, hurting the animals. The washing should be done in June, when the water is sufficiently warm to prevent the sheep from taking cold. After they are perfectly dry, the shearing may take place, during which operation all bodily injuries should be carefully avoided. All sudden transitions from winter to summer, and, on the other hand, from summer to winter feed, should be carefully avoided.

5. Fattening of Sheep.

Sheep that are to be fattened, should have, morning and evening, mashed raw potatoes or beets, mixed with finely-cut straw, and afterwards hay, or husks of peas or beans; at noon, we give them a good quantity of meadow or clover hay, and every day a little salt; also drink,

with grain soaked in it. After giving them salt, it is well to wait a little while, and then let them have drink.

If sheep are to be fattened at pasture, they should be kept in fields that have a rich growth of grass, and should be frequently changed about, to clover-fields that are to be ploughed up, to meadows that have been mowed, etc. We must not forget, in dry weather, to give them every day a little salt, but never shortly before they have their drink.

IV. THE HOG

Is a very useful domestic animal, which springs from the wild hog that is found in various countries of Europe. No species of animals has as many varieties as the hog; in Germany, every village, even every large farm, has a variety of its own. From among the different varieties, the farmer should select that which is most productive, as regards breed, fattening, fecundity, etc. Hog-raising is of great importance to farmers, for the hogs not only consume a good deal of offal that otherwise would not be of any use, but the farmer at the same time saves all the money that he would have to expend for pork and lard in his own household.

1. The age of Hogs

Is most easily ascertained by their teeth. The new-born pig is provided with eight molar-teeth, two corner-incisors in the back part of the jaw, two incisors in the anterior-jaw, and four tusks. At three months the pig

has four incisors in the front-jaw, and six in the back-jaw, among which the two former incisors have sharper edges and are shorter than the rest. At six months the corner-incisors in the back-jaw become altered, the molars being a little separated from the last incisors. At nine months the corner-teeth have dull points, and the milk-tusks become short and loose. At one year the tusks and incisors in the front-jaw become altered. At two years the middle incisors in the front and back-jaw become changed. At three years the tusks, curved backwards, protrude from the snout; the incisors in the back-jaw and the corner-teeth in the front-jaw become altered. After the third year the increasing age of the hog is recognised by the size of the tusks, which increase in length and thickness every year, protrude more and more, and become smoother on their surfaces. The incisors in the front-jaw become looser and fall out, in boars at an earlier period than in sows. Older boars have wrinkles in their mouths, their tusks are considerably worn, and they look old, and, if of a bad disposition, more ferocious. Older sows have a more pendulous belly, which is relaxed and full of folds, provided the animal is neither with young nor fat. In most cases the age of the hog is easily determined by the size of the animal and by a variety of coinciding circumstances.

2. Breeding of Hogs.

In choosing breeding-hogs and boars, we have to select such as spring from sows distinguished for their fecundity, and as are possessed of the requisite qualities for fattening. The best hogs for fattening are those with long bodies round and broad backs, thick necks,

small heads and tolerably short legs, and in general hogs in whom the parts which are least required for fattening, are smallest.

For breeding the largest pigs are always chosen, and the females should never have less than twelve teats; for, if the number of young ones should exceed the number of teats, the sow cannot feed them all; for, after birth every young one takes possession of a teat and keeps it, on which account those that have not got hold of a teat, have necessarily to starve. At nine months the female is fit for breeding; but it is best to wait a year, for, in such a case they last longer and their young are stronger. The male hog should likewise be at least a year old, before it is admitted to the female. The breeding hog should be well fed while she carries her young, but not over much, lest she should grow too fat or miscarry. Sows that are not fed enough, are apt to contract the habit of eating both the after-birth and their young. The after-birth should be removed immediately after its expulsion. After eating the after-birth, the membranous portion frequently remains in the stomach; the sow loses her appetite in consequence, and becomes poorly. Sows that have eaten their young once, scarcely ever give up the habit of doing so again, and it is best to kill them. The period of gestation is generally four months. It is advisable to note the time of birth, so that the sow may have the necessary assistance if she should require any; although, as a general rule, well-kept sows do better without any interference whatsoever.

When the little pigs are three or four weeks old, they are taken from the mother who is fed on less nourishing

food in order that the secretion of milk may be arrested so much sooner. Five or ten days after being separated from her litter, the sow again becomes ruttish, and should then be admitted to the boar every day in order to become impregnated anew. At three months the pigs that are not intended as breeders, have to be castrated. A good sow is generally preserved as long as possible for breeding purposes; if well taken care of she may last from ten to fifteen years; a sow that is unfit for breeding should at once be slaughtered, she may easily be replaced by a better one.

The boar may be used as a breeder until he has attained the age of eight years and more. This, however, is seldom the case; generally the boar is used only until the age of three years, for his flesh becomes poorer every year. A fortnight after he has been with the hog for the last time, the boar is castrated and fattened. Sows that are unfit for breeding may likewise be castrated; but this should not be done when they happen to be ruttish, for in such a case they generally perish.

3. Feeding and treatment of Hogs.

The new-born pigs are fed for the first few days on fresh skimmed cow's milk; and a few days later water is added to the milk in increasing quantities, together with some shorts, bran and a small quantity of cut up potatoes. After the lapse of a few weeks less substantial food is given, and at the age of three months the pigs are fed three times a day on kitchen offal, consisting of any kind of liquid that is not otherwise used and contains a little salt or acid, and of an admixture of solid

food such as bran, potatoes, peelings, cabbage-leaves, fruit, roots, clover, beets, turnips, and carrot-tops, &c.

Of any of this kind of feed we give the hog as much as it can eat. If something more substantial should be required, we may have resort to potatoes or corn, especially in the case of sows that have gone more than half their term with young. If the quantity put into the trough had not all been consumed at one meal, this remnant has to be removed before anything is added to it, except however, if the food was either too thick or too thin, in which case a little more solid or liquid may be mixed up with the balance.

If hogs are to thrive, they have to be fed on good food, although they are not very choice in the selection of what they eat; and the sties have to be kept well lighted, dry, warm in winter and cool in summer. They should be sufficiently large, should have an abundance of clean litter, and the dung should be removed as often as necessary; otherwise the animals may become diseased and enfeebled. If the sties cannot be conveniently arranged with reference to these requisites, the hogs should be frequently let into the open air, in the yard, where they may pick up a good many crums of food even in the winter-season.

During the summer season the hogs are generally driven to pasture. This is particularly advisable in districts where there are low grounds over-grown with sour-grass, marshes, cool and bushy places, pools, and in general such lands as are unfit for other domestic animals, with quantities of snails, worms, roots, which hogs are fond of. Care should be had not to chase the hogs, and to drive them about noon into some shady

place for a couple of hours, near a marsh or pool, where they may have an opportunity of cooling themselves. Beside what they find at pasture, they have to be fed moreover on other materials.

4. Fattening of Hogs.

Hogs of one year old are best calculated for domestic fattening. The stuff which is to be used for this purpose has to be given in the following order: That which they like least, should be given first, and gradually something that they like better, should be substituted; by this means they will always eat with an appetite. Rich and poor food should be given in due admixture. Grains constitute the principal food for fattening; they should be given boiled or soaked, in the shape of meal. Hogs prefer barley-shorts or corn. Sour milk may be very properly added to their feed.

The best method of fattening hogs is the following: The hogs are fed on a mixture of six-parts of boiled potatoes and one-part of corn; gradually a little more corn is added until there is an equal part of corn and potatoes. The hogs are fed four times a day, and are given as much as they care to eat, but no more.

V. THE DOG.

This faithful companion of man which travels with him over all the earth, and is useful to him in various ways, has been a domestic animal from the earliest ages. Its origin is unknown, for dogs were found even in America and Australia, when these continents were first discovered. There are many varieties of dogs, and the different breeds are crossed so frequently that the original race becomes more and more uncertain.

1, The Age of Dogs

Is known by their teeth, though this sign is less characteristic in dogs than in other domestic animals. At four months the dog loses the two middle incisors which are replaced by two new ones. At six months the other incisors and the cuspidati fall out, and new ones grow in their places. Between the ninth and twelfth month the teeth attain to their full size, are of a milky-white color, pointed, with sharp edges, and semi-transparent at their points and edges.

As the dog advances in age, the teeth become altered; the sharp edges and points become worn, the cuspidati become entirely blunted, the teeth look yellow; this yellow color first appears close to the gums, whence it spreads, until the whole of the teeth are thus altered. In very old dogs the teeth are worn off almost as far as the roots, or they fall out one after the other; the eyebrows, the hairs on the back of the nose and on the

neck turn grey. The average life of dogs is twelve years; some dogs live only ten, and others twenty or twenty-five years.

2. Breeding of Dogs.

It is always better to have dogs of a pure breed instead of bastards, which are said to be less useful, and more liable to hydrophobia than the former. When the female has become ruttish, she has to be kept in a separate and cool place, and a male of the same species has to be put to her. About twenty-four or thirty-six hours after the first meeting, the male is again taken from the female, which is still kept confined for ten or fourteen days, until the heat has passed off.

The female carries her young sixty or sixty-three days, during which period she ought to be treated with gentleness and forbearance. At first she may still be moderately employed at her work, but in the last week of pregnancy she ought to be allowed perfect freedom in her movements, and a suitable place has to be provided for, where she may cast her young. There is generally a goodly number of them, of which only four are allowed to live, because a greater number would be prejudicial to the mother's health. Those should be left alive that bear the closest possible resemblance to their parents, and seem the strongest and handsomest.

As soon as the eyes of the little pups become opened, which generally takes place in from nine to fourteen days, a little milk is placed before them in some vessel, of which they may be permitted to drink as much as they please; however, the milk should not be sour, be

cause sour milk might cause diarrhœa. A little later, the milk is mixed with crumbs of bread, and they are gradually prepared, by the time they leave the mother, to be fed on the same food as the older dogs.

If a female dog becomes ruttish, and there is no male dog in the house to put her to, care has to be taken not to allow her to wander about in the town. For her sexual organs being inflamed and swollen, they secrete a reddish humor, which the dogs lick, in consequence of which all the dogs in the neighborhood may become ruttish and be attacked with hydrophobia; for it is supposed that this disease arises mainly from the fact of the sexual instinct remaining unsatisfied after having been excited. If the female has become ruttish, and it is not desired that she should be with young, she has to be confined in a separate stable, where suitable means have to be used to cool her. To this effect she should have less nourishing food than usual, and as much water as she chooses to drink. She may likewise be given a few doses of *Sabina*, *Platina*, and *Cantharides;* linseed is likewise a very useful remedy. An ounce of the seed is crushed in a stone mortar with water, until it is changed to a milky fluid, after which the mass is pressed through a linen rag, and a spoonful of the liquid given several times a day.

3. Feeding and Treatment of Dogs.

A dog may be fed on bones, and on whatever meat is left on the plates or cut off in the kitchen as unfit for the particular use of man. If there should not be a sufficiency of this kind of nourishment, other food will have to be added. Much fat, either liquid or solid, is

not good for dogs. Bones are very agreeable to dogs, or broth with pieces of bread, bones and meat; boiled potatoes, carrots, &c., mixed with broth. Corn or wheat bread, or oatmeal stirred with warm water until it becomes transformed into a sort of pap, are useful articles of food.

Large dogs require more food than small ones; and dogs that work a good deal, require more than those that do less work. As a general rule, dogs ought to have two good meals a day, which is sufficient to the preservation of a good and healthy appearance.

Dogs should always have a sufficient quantity of fresh and cool water; even when heated, dogs are not injured by bathing in, or drinking cold water, inasmuch as they perspire by the tongue, not by the skin.

A healthy kennel, cleanliness and exercise are necessary to the health of dogs, more particularly when they are kept confined and attached to a chain.

SECTION II.

A FEW REMARKS ON HOMŒOPATHY, AND THE MODE OF APPLYING IT TO THE TREATMENT OF DOMESTIC ANIMALS.

As early as the year 1796 Hahnemann published his first indications of the homœopathic treatment of disease in Hufeland's "Journal of Practical Medicine and Surgery," and in the year 1810, he came out with his Organon, which is the text-book of the homœopathic School of Medicine.

The name "homœopathy" is derived from two Greek words, *homoion* (similar), and *pathos* (disease, affection). The discoverer of this system of cure is Dr. *Samuel Christian Friedrich Hahnemann*, born at Meissen in the kingdom of Saxony on the 10th of April, 1755, and died at Paris on the 2nd of July, 1843. According to this system, diseases are cured by small doses of drugs that are capable of exciting similar maladies in healthy organisms.

The homœopathic system of treatment, which has now been in use for upwards of forty years to the great benefit of man and beast, is opposed to the allœopathic system that cures by contraries, heat by cold and vice versa. This mode of treatment is undoubtedly wrong, for it is well known that a frozen limb is not cured by the application of warm water, but of snow or ice. A traveller in the winter is more effectually warmed by drinking a glass of cold beer, than by a glass of warm punch, which causes drowsiness and exposes him to getting frozen. If

potatoes or apples, and the like, get frozen, they are restored by being immersed in ice-water, whereas they would rot if plunged into warm water. On the other hand, the heated reaper or dancer cools himself by drinking a little brandy instead of cold beer or water. We heal a burnt hand, not by dipping it in cold water, but by holding it near the hot stove, or enveloping it with some heating substance, warm brandy, warm oil of turpentine, etc. These examples show that our domestic practice is replete with homœopathic modes of treatment. Vaccination, the treatment of the itch with Sulphur, of fever and ague with Peruvian bark, etc., are likewise founded upon homœopathic principles, for all these substances are capable of causing similar diseases in healthy persons.

The fundamental principle of homœopathy is the following:

In order to cure a disease, select such a remedy as is capable of producing a similar malady in a healthy person; and of such a remedy prescribe only a small dose.

Hahnemann having contracted a lingering disease, in consequence of excessive labor, he devoted himself to the study of medicine; but, after having practised for a few years, he became so dissatisfied at the uncertainties of medical practice, that he abandoned this field of labor, and contented himself with translating medical works into German.

While translating Cullen's Materia Medica, in 1790, he was struck by the statement that Peruvian bark is a specific remedy for fever and ague. Determined to find out the reason of this specific curative virtue, he swallowed a considerable quantity of it, with a view of dis-

covering its effects upon the healthy body; and he soon found that bark produces a disease similar to chills and fever. Hence he concluded that a drug becomes a specific for those maladies which it is capable of reproducing, in appearance at least, in healthy organisms. He at once went to work, and lost no time in ascertaining the effects of other simple medicines upon healthy persons, and, towards the end of the last century, was prepared to give to the world his new system of treatment, and to apply it with satisfactory results.

It is evident that this is the true mode of ascertaining the pure effects of drugs; whereas the old school has constantly endeavored to obtain the same results by mixing up a number of drugs, and observing their action upon the sick. Hahnemann found that every drug produces a twofold action in the organism, one of which is opposite to the other; the former being called primary, the latter secondary action. The primary action of the drug tends to develop a certain disturbance of the organism, which is followed by an opposite action, termed the reaction of the vital force. The effect of this reaction is the restoration of the original state. This double action of drugs has escaped the observation of practitioners previous to Hahnemann; and it is in accordance with this positive experience that the homœopathic physician always prescribes a remedy which, in its primary action, is similar to the disease; for, in this case, the reaction will necessarily be opposed to the disease, and produce health.

The same simple method in ascertaining the effects of drugs upon the healthy organism, is pursued by homœopathic physicians in determining the character

of diseases. Homœopathy contents herself with admitting that disease consists in some alteration of the vital force; but she does not aim at discovering the inmost essence of disease, which is as hidden as the inmost essence of life itself. Homœopathy simply observes the external phenomena of disease, and directs her curative means exclusively against these symptoms. In order to obtain a perfectly accurate and reliable image of the disease, not the slightest circumstance or appearance ought to be left out among the list of symptoms. To these symptoms we apply a remedy which, among its effects, exhibits an exactly similar list of symptoms. We know from long experience that a removal of the symptoms is equivalent to a cure of the disease.

Another essential difference between homœopathy and allœopathy is this, *that the former never employs more than one remedy at a time.* Compound medicines frequently act differently from the ingredients of which they are composed. On the other hand, we know from abundant experience that the small doses of homœopathic medicines are abundantly able to control diseases, the symptoms of which are similar to the symptoms of the drugs.

It seems just as impossible to account for the action of the small homœopathic doses, as it is impossible to explain so many other phenomena in nature. Who can describe the forces that move our muscles? Who can explain the manner in which a tree grows out of the seed? It is only measurably possible to account for the effect of homœopathic doses. We know that all natural phenomena are produced by invisible forces, and that it

is not visible material, but invisible immaterial agents which disturb the equilibrium of the human body. Chagrin, fright, grief, homesickness, etc., frequently induce disease. How often are diseases transmitted by mere contact! It has even happened that diseases have been carried from continent to continent in bales of cotton. And yet no one has ever beheld the principles or forces of disease which were thus transferred from place to place or person to person. Why should not drugs be endowed with a similar power to disturb the animal economy? And why should not this power be set free, or, at any rate, developed by peculiar processes, although we may be no better acquainted with the mode in which this development is accomplished, than we are acquainted with the nature of animal magnetism, or with the force which friction develops in a stick of sealing-wax, to attract small bits of paper, or with a number of other phenomena, such as the magnetic power of smiths who, after a time, become enabled to attract iron filings; the ennobling effects of grafting; the process of digestion, and the transformation of food into fertilising manure, etc.

The curative power of homœopathic remedies is not only developed by the process of potentization, but their action is likewise assisted by the fact that a diseased surface is more sensitive to the action of a similarly acting agent than a healthy surface would be. A weak and easily irritated lung is easily disturbed by damp weather. A rheumatic person experiences pain even from the slightest exposure to a draught of air. A fever patient complains even of a moderate degree of heat in a room. Who does not know that a decayed tooth causes the

most horrible sufferings by the contact of things that would not affect a sound tooth in the remotest degree? This is the reason why diseased parts are so readily affected by small doses of a similarly-acting medicine. And the action of such drugs will be the more precise and positive, the more directly it affects the diseased part.

The action of the homœopathic agent is still more facilitated by keeping all disturbing influences away from the patient. Homœopathy avoids all compounds, the ingredients of which are so apt to counteract or modify each other. An excessive repetition of the dose is likewise avoided as injurious. Excessive repetitions of the dose is a great mistake of the other school; for not only is the good effect of a drug neutralized thereby, but artificial drug-diseases are likewise frequently induced by such abuses. In homœopathic practice, a dose is not renewed until the one previously given has exhausted its effect.

A rigorous diet is essential to the perfect action of a drug. In homœopathic practice all heavy articles of diet, and all medicinal substances are forbidden. A strict diet should more particularly be observed by all those who are exposed to influences that have a tendency to disturb the action of drugs; homœopathic remedies are too refined to bear the counteracting influences by which we are so frequently surrounded.

Let us now pass to the most NECESSARY GENERAL INSTRUCTIONS CONCERNING THE TREATMENT OF SICK DOMESTIC ANIMALS.

a. The Homœopathic Domestic Medicine-chest.

The medicines composing such a chest should be selected with great care, either by an homœopathic physician, or by some person fully acquainted with homœopathy. In many places they may be purchased of an homœopathic pharmaceutist.

Homœopathic medicines may be prescribed in a liquid as well as in a dry form; experience, however, has shown that the liquid form is best suitable to domestic animals; of vegetable medicines we give the third, and of metals, earths and acids, the sixth attenuation.

A homœopathic medicine chest should be carefully guarded against all extraneous influences; it has to be kept in a dry place, which is neither too warm nor too cool, free from strong odors, such as perfumes, roast coffee, the fumes of tobacco, the vapor of sulphur, camphor, essences, etc.; immediately after using a vial, it has to be corked again with the same cork, inasmuch as a change of corks from one vial to another might spoil their contents. With proper care medicines may be kept for years, without losing their efficacy.

In this work the following medicines will be found mentioned in Latin, to which we append the abbreviations, and the English signification.

Latin.	Abbrev.	English.
1. Absynthium,	Absyn.,	Absinth.
2. Acidum muriaticum,	Ac. mur.,	Muriat acid.
3. Acidum nitri,	Ac. nitr.,	Nitric acid.
4. Acidum phosphoricum,	Ac. phosph.,	Phosph. acid.
5. Acidum sulphuricum,	Ac. sulph.,	Sulphur. acid.
6. Aconitum napellus,	Acon.,	Wolf's bane.
7. Agaricus muscarius,	Agar.,	Bug agaric.

	Latin.	Abbrev.	English.
8.	Alumina,	Alum.,	Alum.
9.	Ammonium carbonicum,	Am. carb.,	Carbonate of ammonia.
10.	Ammonium muriaticum,	Am. mur.,	Muriate of ammonia.
11.	Anacardium orientale,	Anac.,	Malacca bean.
12.	Anthracinum,	Anthrac.,	
13.	Antimonium crudum,	Ant. cr.,	Antimony.
14.	Antimonium tartaricum,	Ant. tart.,	Tartar emetic.
15.	Argentum,	Arg.,	Silver.
16.	Arnica montana,	Arn.,	Leopard's-bane.
17.	Arsenicum album,	Ars.,	Arsenic.
18.	Arum maculatum,	Ar. mac.,	Common arum.
19.	Asafoetida,	Asa f.,	
20.	Asarum europæum,	Asar.,	Asaret.
21.	Aurum,	Aur.,	Gold.
22.	Baryta acetica,	Baryt. acet.,	Acetate of baryta.
23.	Baryta carbonica,	Baryt. carb.,	Carbonate of baryta.
24.	Belladonna,	Bell.,	Deadly nightshade.
25.	Boviluinum,	Bovil.,	
26.	Borax,	Bor.,	Borax.
27.	Bryonia alba,	Bry.,	White Bryony.
28.	Calcarea acetica,	Calc. ac.,	Acetate of lime.
29.	Calcarea carbonica,	Calc. carb.,	Carbonate of lime.
30.	Camphora,	Camph.,	Camphor.
31.	Cannabis sativa,	Cann. sat.,	Hemp.
32.	Cantharides,	Canth.,	Spanish fly.
33.	Carbo animalis,	Carb. an.,	Animal charcoal.
34.	Carbo vegetabilis,	Carb. veg.,	Vegetable
35.	Causticum,	Caust.,	Caustic.
36.	Chamomilla,	Cham.,	Chamomile flower.
37.	China,	Chin.,	Peruvian bark.
38.	Cina,	Cin.,	Worm seed.
39.	Clematis erecta,	Clem. er.,	Upright virgin bower.
40.	Cocculus,	Cocc.,	Fish berries.
41.	Coffea cruda,	Coff.,	Coffee.
42.	Colchicum autumnale,	Colch.,	Meadow saffron.
43.	Conium maculatum,	Con.,	Hemlock.
44.	Cuprum aceticum,	Cupr. ac.,	Acetate of copper.

Latin.	Abbrev.	English.
45. Cuprum metallicum,	Cupr. m.,	Metallic copper.
46. Digitalis purpurea,	Dig.,	Fox glove.
47. Drosera rotundifolia,	Dros.,	Sun dew.
48. Dulcamara,	Dulc.,	Bittersweet.
49. Euphrasia officinalis,	Euphr.,	Eye bright.
50 Ferrum muriaticum,	Ferr. mur.,	Muriate of iron.
51. Ferrum metallicum,	Ferr. m.,	Metallic iron.
52. Filix mas,	Fil.,	Male fern.
53. Graphites,	Graph.,	Black lead.
54. Helleborus niger,	Hell.,	Christmas rose.
55. Hepar sulphuris,	Hep.,	Liver of sulphur.
56. Hippozæninum,	Hippoz.,	
57. Hydrophobinum,	Hydroph.,	
58. Hyoscyamus niger,	Hyoc.,	Henbane.
59. Iacea,	Iac.,	Violet.
60. Ignatia amara,	Ignat.,	St. Ignatius' bean.
61. Indigo,	Ind.,	Indigo.
62. Iodium,	Iod.,	Iodine.
63. Ipecacuanha,	Ipec.,	Ipecacuanha root.
64. Kali carbonicum,	Kal. carb.,	Carbonate of potash.
65. Lachesis,	Lach.,	Lance headed viper.
66. Ledum palustre,	Led. p.,	Marsh tea.
57. Lycopodium,	Lyc.,	Clubb moss.
68. Magnesia muriatica,	Magn. mur.,	Muriate of magnesia.
69. Marum verum,	Mar. ver.,	Cat thyme.
70. Mercurius corrosivus,	Merc. cor.,	Corrosive sublimate.
71. Mercurius solubilis,	Merc. sol.,	Soluble mercury.
72. Mercurius vivus,	Merc. v.,	Quicksilver.
73. Mezereum,	Mez.,	Mezerem.
74. Natrum muriaticum,	Natr. mur.,	Kitchen salt.
75. Nitrum,	Nitr.,	Saltpetre.
76. Nux vomica,	Nux v.,	Vomic nut.
77. Oleander,	Olean.,	Nerium Oleander.
78. Opium,	Op.,	White poppy.
79. Petroleum,	Petr.,	Rock oil.
80. Phosphorus,	Phosp.,	Phosphorus.
81. Platina,	Plat.,	Platina.

Latin.	Abbrev.	English.
82. Plumbum aceticum,	Pl. acet.,	Acetate of lead.
83. Plumbum metallicum,	Pl. met.,	Lead.
84. Pulsatilla,	Puls.,	Meadow anemene.
85. Rheum.	Rhe.,	Rhubarb.
86. Rhododendron chrysanthum,	Rhod.,	Yellow rhododendrum.
87. Rhus toxicodendron,	Rhus t.,	Sumach.
88. Ruta graveolens,	Rut.	Garden rue.
89. Sabadilla,	Sabad.,	Indian barley.
90. Sabina,	Sab.,	Savina.
91. Solandum,	Solan.,	Night-shade.
92. Sapo domesticus,	Sapo.,	Soap.
93. Sarsaparilla,	Sarsap.,	Sarsaparilla root.
94. Scabiesinum equorum,	Scab.,	
95. Secale cornutum,	Sec.,	Spurred rye.
96. Sepia,	Sep.,	Cuttle fish.
97. Silicea,	Sil.,	Silex.
98. Spigelia,	Spig.,	Pink root.
99. Spiritus sulphuratus,	Sp. sulph.,	Spirit of sulph.
100. Spongia marina tosta,	Spong.,	Burnt sponge.
101. Squilla maritima,	Squil.,	Sea onion.
102. Stannum,	Stan.,	Tin.
103. Staphisagria,	Staphis,	Staphesacre.
104. Stramonium,	Stram.,	Stinkweed.
105. Sulphur,	Sulp.,	Brimstone.
106. Symphytum officinale,	Symph.,	Comfrey.
107. Thuya occidentalis,	Thuj.,	Tree of life.
108. Urolithinum,	Urol.,	
109. Urtica urens,	Urt.,	Stinging nettle.
110. Uva ursi,	Uva.,	Bear berry.
111. Veratrum album,	Verat.,	White hellebore.
112. Vinca minor,	Vinc.	Periwinkle.
113, Zincum,	Zinc.	Zinc.

And for external use *Arnica montana*, *Symphytum officinale* and *Urtica urens*.

By *potency* we understand the power of drugs as developed by the process of preparation. It is not the material substance of a drug that constitutes the medicinal power of the same, but the inherent invisible spiritual power which is rendered more active by suitable preparation. In homœopathic practice this power is obtained by freeing it as it were from the external material envelope according to Dr. Caspari's method as developed in his work, "*On the preparation of homœopathic Remedies.*" We obtain our medicines from the three kingdoms of nature.

All succulent plants and roots which can be obtained fresh, are stamped in a perfectly clean stone mortar to a paste, and afterwards pressed through a linen cloth that had not been used for any other purpose. The juice is mixed with alcohol of eighty or ninety degrees, and left standing in a well corked bottle or glass jar for eight days. After this period the clear liquid is poured off.

The liquid thus obtained is called *mother tincture.* From this tincture we form attenuations by successive additions of alcohol. The first attenuation is formed by adding one drop of the tincture to ninety-nine drops of alcohol, and shaking this mixture powerfully a number of times. The second attenuation is obtained from the first, by adding ninety-eight drops of alcohol to two drops of the first attenuation, and shaking this mixture in a similar manner as the preceding. The third attenuation is derived from the second by the same process, and so on every succeeding attenuation from the one that precedes it. Every attenuation has to be kept in a separate vial.

Fresh roots, leaves, blossoms and seeds that contain

little juice, are first stamped to a paste, after which this is enclosed in a glass jar with a wide mouth, the weight of which had been ascertained previously. Afterwards the whole of it is weighed over again, the weight of the jar deducted, and to the balance four times the amount of alcohol by weight is added. The jar is carefully closed, and, after the mass has been left standing eight days, it is pressed out. Dry plants, barks, roots and seeds are prepared in a similar manner. They are first finely pulverised, cut or rasped, after which twenty parts of alcohol by weight are added. This infusion is allowed to stand eight days in a well closed glass vessel, being well shaken once every day, after which the liquid is filtered through blotting paper and kept for use. The vessels should not be kept too near the stove, nor should they be exposed to the heat of the sun.

Of substances thus prepared the attenuations are formed differently from the former. Of drugs where four times the quantity of alcohol had been added, we form the first attenuation by adding ninety-six drops of alcohol to four drops of the tincture; and of drugs where twenty times the quantity of alcohol is added, we form the first attenuation by adding twenty drops of the tincture to eighty drops of alcohol; the second and all succeeding attenuations are formed alike.

Medicines taken from the animal and mineral kingdoms are triturated three times before being attenuated with alcohol. To one grain of the crude substance we add one hundred grains of sugar of milk, triturating first only the fourth part of this amount in a glass or marble mortar, and adding another fourth every fifteen minutes; the mass has to be scraped up every now and

then with a horn-spatula. This is the first trituration. The second trituration is formed in a similar manner by adding ninety-nine grains of sugar of milk to one grain of the first trituration and triturating them together as before. The third trituration is obtained from the second by the same method. The fourth attenuation is derived from the third, by dissolving one grain of the third trituration in a mixture of fifty drops of water and fifty of alcohol; this is well shaken by powerful strokes of the arm, and labelled fourth atten. The fifth and all succeeding attenuations are obtained in the usual manner by adding ninety-nine drops of alcohol to one drop of the preceding attenuation. In order to save the trouble of counting the drops, it is well to use a drop-measure of glass, numbered fifty, eighty, ninety or one hundred drops.

In preparing a medicine, the greatest cleanliness has to be used. The same vials should always be used for the same attenuations; and after using a mortar, it should always be carefully washed out and dried by the fire. All odors, vapors, etc., have likewise to be carefully kept out of the room where the medicines are prepared.

b. Medicines may be administered

In various ways. An excellent method is to drop from two to eight drops upon a wafer, and to place this on the animal's tongue. Instead of the wafer a little piece of bread or a teaspoonful of flour-paste may be used. In giving medicines to horses, cattle and sheep, we raise their heads a little, press down the tongue to one side, pull it out as far as may be, and then place the

wafer upon it as far back as possible; after which the mouth is held closed with the hand, in order to compel the animals to swallow the wafer.

Hogs may take their medicine in the milk which is usually given them to drink; but if they should refuse to drink, the snout will have to be kept forcibly open by means of a stick of wood, and the medicine poured in. Most hogs, when sick, lie quietly on one side, and, in this position, it becomes quite easy to introduce the medicine between their jaws, or to pour six drops upon their tongues.

Dogs refusing to take the medicine, may have it administered to them in milk. If the jaws should be spasmodically closed, or the animals should oppose the introduction of the drug by the mouth, the head of the animal may be raised so that the medicine may be poured into one nostril; in this way the medicine will likewise act, for the medicinal emanations will touch the nerves which are distributed over the nasal cavities, and, by this means, restore the vital reaction in a mild, and nevertheless efficient manner.

c. Size of the dose.

The size of the dose varies according to the different species of animals. Cattle are less sensitive to medicine than horses and dogs, and sheep and hogs are less susceptible than cattle. In the case of horses and dogs, three drops, in that of cattle five drops, and in the case of sheep and hogs six drops are an appropriate dose. Small doses act more safely and thoroughly than large ones; he who wishes to be a successful veterinary practitioner should bear this fact constantly in mind.

d. Repetition of the dose.

In some cases the dose has to be repeated; but all useless and improper repetitions should be avoided. If no change of any kind should take place after the first dose, this is a sure sign that the medicine had been improperly selected, and that a second dose of the same remedy would not do any more good than the former had done. In this case we have to review the symptoms a second time, and to select a different remedy.

If the first dose should produce a favorable change in the symptoms of the disease, and this change should again be followed by an aggravation, it is proper to give a second dose of the same remedy. If the symptoms should become aggravated after the first dose, we should not all at once resort to a different remedy; for this aggravation might be what we have termed an homœopathic aggravation, which would soon be followed by a favorable reaction.

In all very acute diseases that run a rapid course, and after one, two or four weeks terminate in death or recovery, such as glanders, pleura pneumonia, etc., the dose should be repeated every five, ten or fifteen minutes. In such dangerous maladies the first dose is often followed by a visible improvement, which soon ceases however; this is the time to repeat the dose, and a second dose may then be eminently useful.

In chronic diseases that run a long course, the medicine may be repeated every day, or every two, three or four days. In such cases the rule is likewise not to interfere with an incipient improvement, by giving another dose of the same or some other remedy. If the

improvement stops, the medicine may be repeated, and if no improvement at all should set in after a reasonable lapse of time, another medicine may be chosen. Among the class of chronic diseases we number all nervous and mental diseases, lingering fevers, etc.

e. An improper remedy

Does not produce any very injurious effects; for a homœopathic remedy only acts upon a disease, to which the medicine is really homœopathic; otherwise the smallness of the dose is such that the medicine cannot possibly affect the organism. All that we have to do is, to give another remedy and to endeavor to avoid mistakes for the future, which will be so much easier the longer this book is used.

f. Homœopathic remedies may be applied externally

In the case of burns and other injuries. We use principally, *Arnica*, *Symphytum*, and *Urtica urens*, from twenty to thirty drops in half a pint of water, and this mixture to be applied to the part according to directions.

g. A proper diet

In the case of sick domestic animals is of great importance. All applications, quack-medicines, etc., that might interfere with the regular treatment, have to be avoided. Injections of water mixed with a little salt or soap, are allowable. The usual feed may be continued, except in the case of dogs, where all seasoned food has to be withdrawn during the treatment, and milk and bread substituted in the place. Half an hour at least should elapse between the feeding and the taking of the medicine.

h. A correct diagnosis

Is indispensable to a proper selection of the remedy. In order to obtain a proper knowledge of disease, this book should be carefully studied, more particularly the symptoms of the disease. If an animal should become diseased, we have to inquire into its usual state of health, then note how it beats its sides with the tail, how it breathes through the nose, the expression of the features, the position, movements of the animal, looks, excrements. After this preliminary examination the animal is to be examined by pressure, in order that we may ascertain where it feels pain; for even internal organs, if diseased, will be found discoverable by this process. The temperature of the skin should likewise be examined; if chills and burning heat frequently succeed each other, the disease is the more violent. In the case of thick-skinned and hairy animals it is very difficult to determine the condition of the circulation by the pulse; in such a case the temperature of the ears facilitates this inquiry very materially.

After having taken a full record of all these pathognomonic signs, we proceed to select a remedy that has similar symptoms. If this similarity is carefully established, a cure will not fail to result from the operation of the drug. In diseases of horses, the diagnosis may be facilitated by a reference to the picture in front of the title-page.

Any one who has a taste for, and takes an interest in domestic animals, will soon be able, by the aid of this book, to get along in the treatment of their diseases without sending for a surgeon.

SECTION III.

HOMŒOPATHIC TREATMENT OF HORSES, CATTLE, SHEEP, HOGS AND DOGS.

THE following section contains a list of the diseases of horses, cattle, sheep, hogs and dogs: the pathognomonic signs of these diseases, their causes, and homœopathic treatment in alphabetic order. This arrangement has been deemed the most convenient for reference. In order to afford this work as cheaply as possible, all unnecessary prolixity in the description of the diseases has been avoided.

Abscesses, Ulcers.

Diagnosis.—Every tumor, when coming to a head, becomes an abscess; wounds which are mismanaged with acrid ointments are readily changed to chronic and malignant ulcers. Healthy ulcers secrete a thick milky pus, are not very painful, and heal readily. Bad or malignant sores secrete an acrid, thick or thin, badly colored fetid ichor. Some ulcers penetrate deeply, cause cavities, and corrode even the bones, (See Fistulæ.) Dogs are sometimes attacked with boils all over the body, which discharge a bloody pus.

Causes.—Abscesses and ulcers frequently arise from the causes that have been detailed under the article Swellings and Tumors; malignant sores are caused by the mismanagement of abscesses, wounds, etc.

Treatment.—If inflammation and heat be present, give *Aconite;* if a thin, fetid pus be secreted, give *Asafœtida* in alternation with *Mercurius vivus.* Give *Silicea* if the pus be thick and fetid. *Arsenicum*, if proud flesh shoots up, or the edges of the ulcer are hard and everted, the sore is painful, and secretes a thin and acrid ichor; in such a case *Arsenicum* may be used externally. *Arsenicum* is useful for the boils of dogs. Give *Conium* alternately with *Mercurius vivus*, if, after healing a sore, the skin looks indurated and adhering like parchment. *Pulsatilla* is a chief remedy for fistulous ulcers; if repeated doses of *Pulsatilla* are not sufficient to a cure, give other remedies with it, especially *Calcarea carbonica.* (See Fistulæ.)

Dose.—Four drops of the selected remedy three times a day.

Abscess of the poll, Poll-evil.

Diagnosis.—Among horses, where the head and neck unite, a tumor is sometimes perceived, which is hot, tense and extremely painful. The horse carries the head low, looks to one side, eats little, especially if the feed is hard, on account of the pain caused by the chewing. If the tumor does not disperse, it comes to a head, and, in this case, the suppuration has to be favored. If, on pressure with the finger, a soft spot is felt, an incision should be made, in order to prevent the formation of fistulous ulcer.

Causes.—Blows, etc., may indeed cause this complaint; but constitutional causes, such as suppression of gleet, etc., are almost always present.

Treatment.—At the outset, when no pus is as yet present, the tumor may sometimes be scattered by applying poultices of warm rye, and giving four drops alternately of *Aconite* and *Bryonia*, every few hours. If this course of treatment does not scatter the swelling, it will come to a head, especially when giving *Hepar sulphuris*, a dose as above every six hours. After breaking, the sore is treated like a common abscess. (See *Abscess and Fistulæ.*)

Amaurosis.

Diagnosis.—The pupil which, when sound, is oblong and of moderate size, becomes immoveable, circular, dilated; the eye looks bright. If the animal is led against objects, it stumbles against them, it raises its legs very high.

Causes.—Destruction of the optic nerves by previous inflammation and other causes.

Treatment.—*Pulsatilla*, *Cannabis*, *Conium*, *Sulphur*, allowing each remedy some time to act. *Ammonium carbon.* in more chronic cases; in eight days after, give *Causticum;* a fortnight after this, give *Belladonna;* eight days later, give six doses of *Euphrasia*, one every two days; if lachrymation sets in, give *Cannabis* and *Sulphur.* If the nerve is destroyed, no cure is possible.

Anorexia—Loss of Appetite.

Diagnosis.—If the appetite decreases and there is no other sign of sickness which requires to be treated, after which the appetite would return of itself: we have to examine the feed in order to find out whether it is perfectly wholesome, and likewise the interior of the

mouth, in order to make sure whether there is any trouble about the teeth, injuries, ulcers, aphthæ, inflammation, etc. We have also to inquire whether the loss of appetite may not result from overloading the stomach or from over-exertion. If none of these causes are present, the disease arises from deranged digestion, which will likewise show itself by delays in the passage of the dung, which is mixed up with half-digested food, or by various kinds of diarrhœic discharges. Sometimes an opposite state takes place, a ravenous desire for food which it becomes impossible to gratify, so that the animal swallows things which are absolutely indigestible, and nevertheless becomes more and more emaciated. If the hunger is not gratified, the animal is attacked with vertigo, and will not budge until it has had something to eat.

Causes.—These have already been partially stated. The main cause of a loss of appetite is a deranged digestion, and of canine hunger, an excessive rapidity of digestion, which may likewise be caused by worms.

Treatment.—If there are injuries in the mouth, they ought to be washed with Arnica-lotion. If there are ulcers and inflammations, we have to give *Mercurius vivus;* in the case of aphthæ, we give *Acid. sulphur.* If the loss of appetite arises from over-exertion, we give *Opium* and *Nux vomica;* if arising from overloading the stomach, *Antimonium crudum*, and if from eating bad feed, *Arsenicum.* If the derangement of the digestive faculties is caused by a cold, and the dung is hard, dry, and not properly digested, give *Nux vomica* and *Dulcamara;* discharges of thin and fetid dung, require *Pulsatilla;* papescent dung, mixed with blood-streaked mucus, re

quires *Asarum europ.;* diarrhœa with loss of thirst and cold feet, requires *Pulsatilla;* diarrhœa with colic, *Arsenicum.* If the disease is caused by bad feed, it has to be removed, and wholesome feed substituted in its place; during dentition, especially in the case of horses, soft feed should be given for a few days. Canine hunger is cured by *Pulsatilla*, *Nux vomica* and *Sepia;* if the affection is caused by worms, give *China*, *Mercurius solubilis*, *Silicea*, and lastly, *Sulphur.*

Dose.—Of the remedy most applicable, give six drops night and morning.

Angina pectoris, Pneumonia.

Diagnosis.—The inflammation extends over that portion of the lungs which corresponds to the inflamed part of the chest; over the pleura, and sometimes the heart, pericardium, wind-pipe, etc. The disease generally sets in with a chill, followed by burning heat, the breath is hot, sometimes like vapor, and the act of breathing is very quick, with the nostrils wide open: the mucous membrane of the mouth and nose is red and dry, voice rough dry and husky; eyes staring and red: the animal does not lie down, or else jumps up again very speedily, is very sensitive to contact in the region of the throat, gathers up its legs under the belly, is unable to raise its neck without great pain, and staggers about with stiff legs and in an awkward manner. It is immaterial in point of treatment which part of the chest is inflamed; provided we know that it is angina, the following course of treatment will be found efficient.

Causes.—Sudden change of weather, especially in the fall, winter and spring; taking cold in rough weather

rain; cold bathing or drinking when overheated; pulmonary tubercles or other chronic pulmonary affections.

Treatment. If chill and heat are not overlooked at the outset, the disease will remain undeveloped. Give *Arsenicum*, if the chill sets in after cold drinking, bathing or exposure to rain. If the chill continues after one or two hours, give *Aconite*, and soon after *Arsenicum*. Give *Bryonia*, if the chill is caused by exposure to rough weather; after which *Arsenicum* and *Aconite* may be given. If horses and cattle are attacked, their backs may be rubbed with wisps of straw, after which woolen blankets may be laid over them. If the disease is fully developed, give *Aconite*, every fifteen minutes, or every half hour or hour, according to the vehemence of the symptoms; and, if no improvement sets in, in a few hours, give *Bryonia*. Generally the disease is removed by this course of treatment, although it is sometimes necessary to give a dose of *Cannabis*, when there is much palpitation of the heart, and *Digitalis*, for irregular beating of the heart. *Nux vomica*, for hard stool or constipation, *Pulsatilla*, for sudden diarrhoea, *Opium*, when the animal stands as if half asleep.

We insert the following description of pneumonia from Haycock.

Inflammation of the Lungs.

In treating upon a class of diseases such as are embraced within the present section, great difficulty must of necessity be experienced by every writer upon equine disease, in drawing that line of clear demarcation between one affection and another, as several of them bear such a close general resemblance, and at the same time they not unfre-

quently terminate in each other; or two or even three of their number may be so associated in the same animal, that, to the uninstructed, they will appear either as one, or an assemblage of something which presents features of inextricable confusion.

On some occasions we observe *inflammation of the lungs*, *bronchitis*, *pleurisy*, and other inflammatory diseases of the respiratory organs, each in a pure and distinct form; but such cases, comparatively speaking, are rare; hence, in treating of one we are compelled to generalise to a considerable extent, and hence the difficulty of this branch of our subject in affording that clearness to the general reader which is so greatly desired. Be it remembered, however, that such difficulties are not of my creating—they exist independent of me; and I do not write to mystify, but, if possible, to make clear.

Symptoms.—Pneumonia is not unfrequently produced from want of due care in the first instance. A horse is affected with what is commonly designated a "bad cold"—he coughs a little, is off his food, and is not so lively as usual. In this state he is, perhaps, taken out of a comfortable stable and exposed to wet and cold; and soon after returning home he begins to shiver—to breathe quicker than ordinary—the body and the limbs become very cold—he holds his head low and he stands fixedly to one place. If the practiced ear be applied to the sides of the chest at this stage of the disease, the respiratory murmur will be heard, but its character will be changed from the sound which is peculiar to health. When the lungs are healthy, the respiratory murmur is of a moist but clear sound, not unlike the faint rustling of silk; but instead of this moist silky sound, the murmur will be

either harsh and dry, or nothing will be heard but a confused humming noise, not unlike the distant hum of a large town, or of a very distant waterfall. These conditions, however, are of short duration, and instead of the dry murmur or the confused humming noise, we have a soft mucous rattle, or what Laennec calls "the moist crepitus rhonchus"—a sound which can be very closely imitated by placing a thickly painted board before a hot fire, and as the paint from the action of the heat rises in blisters upon the surface, a frizzling noise will be heard, which very closely resembles this moist crepitus rhonchus of Laennec. This rhonchus may be confined to a small portion of one lung or a large portion of it, or it may be heard in both lungs. It is very rare, however, to have double pneumonia in such activity at the same time—more commonly the affection is confined to one lung. The second stage is also marked by the cough becoming more frequent, or in some cases less frequent; but in either case it is harder, more constrained, and inflicts severe pain upon the patient during the act. The pulse will also probably beat more softly and range from sixty to eighty per minute, while the respirations will range from thirty to forty. As the disease proceeds, this moist crepitus rhonchus disappears, and no sound can be detected in that region of the lung where it was present—all is silent—the part has become solid, but the respiratory murmur in the sound portion will be louder in tone, and the mucous rattle in the bronchial tubes will also have become louder; the appetite will be very indifferent; the animal will stand with the fore legs placed wide apart, and the neck and head will be maintained in a line even with the back; the hair upon the extremities will be fine

and glossy, and the extremities low in temperature and free from swelling. In this state the patient may remain for one or two days, or even more, when, if he be judiciously treated, and all other states are favourable, the air will again begin to penetrate the diseased part, which change will be marked at first by a very faint murmur, then by a return of the moist crepitus rhonchus and by a louder murmur, while the rhonchus itself will be very similar in many respects to that first described, but still differing from it in others which are easily known to the experienced ear, but extremely difficult to describe. If the pleura be implicated in the affection, it may be known by one or both sides of the chest being tender if pressed upon—by great dullness of the respiratory murmur generally, and also by the extreme suddenness with which that murmur will at times disappear. If, on the contrary, the disease should gain force, it will be readily discovered by the pulse becoming quicker, more feeble and irregular; by the legs and ears becoming more cold; by the eye becoming glassy and staring. Sometimes the animal will press his forehead against the wall—the mouth will remain moist, but a coldness within it will supervene—he will frequently grind his teeth—he will regard his sides with anxiety—the muscles in various parts of the body will start spasmodically, or as though they were galvanised—he will frequently lay down—stagger for a time unconsciously about, then suddenly fall and expire. "Death will ensue earlier or later, as the disease has been more or less rapid, occurring sometimes as early as the second or third day, but more often between that and the seventh, and being sometimes prolonged to the fourteenth or fifteenth.

"The TERMINATIONS of pneumonia are more varied than in most other complaints: *Resolution* is that most to be desired, in which the symptoms gradually subside, either spontaneously or aided by the curative treatment, the texture of the lungs returning to their cellular structure. *Hydrothorax*, or serous effusion within the cavities of the pleura, is another fatal termination, and is either acute and rapid, or more protracted. In the former it occurs from the third to the fourteenth day; the exhalent vessels of the pleura begin their serous secretion, which they continue to pour out until they completely fill one or both thoracic cavities, and the animal dies from suffocation. *Mortification* is not a frequent termination of true pneumonia; the irritation, or congestion, usually destroys the animal before the tissues are completely broken up."* This state is at once recognised by the green color of the pleura and the lungs; by the entire breaking up of the structure of the lungs; by the putrid looking matter contained within the chest, and by the abominable stench which is emitted. The gangrenous state is more peculiar to typhoid pneumonia. "*Hepatization* is also not an uncommon termination, in which the parenchymatous substance of the lungs becomes so blocked up and solidified as to make them, contrary to the usual state, sink in water. When the condensation is only partial, the states called *thick wind* and *broken wind* are the consequence; or an increased irritability of the lungs themselves, or of the mucous membranes of the bronchia and trachea, may be left, which subjects the horse to a long continued or permanent cough."†

* Blaine's Outlines of the Veterinary Art. † Ibid

Causes.—"The following are the most frequent causes of pneumonia: A sudden transition from heat to cold; a change from a warmer stable to a colder one; a neglect of the usual clothing; riding far and fast against a cold wind, especially in snowy weather; loitering about when unusual perspiration has been excited. On the other hand, a sudden and considerable change from cold to heat may be followed by the disease. Many horses perish in the dealer's stables from this cause."*

Diagnosis.—The diagnosis of pneumonia is of importance. Pure pneumonia, as I have before observed, is, comparatively speaking, rare: it is for the most part found in association with bronchitis and pleurisy: this is almost certain to be the case if the disease be epidemical—the rattle within the chest, the suppression of the respiratory murmur, the freedom of the limbs from all swelling; together with their constant coldness, and standing with the fore legs wide apart, and the animal not laying down, are all symptoms clearly indicative of the disease.

Treatment.—The best remedies for pneumonia in general are—*Aconite*, *Bryonia*, *Phosphorus*, *Rhus toxicodendron*, *Antimonium tart.*, *Arsenicum*, *Squilla*, *Sulphur*, and *Iodine.*

The treatment should always be commenced by the administration of aconite; its use must be steadily persevered in for one or two days: use it of the first dilution, in five or eight-drop doses, given either every three hours, or thrice daily; namely, morning, noon, and night, according to the urgency of the symptoms in general.

* "The Horse," by Youatt

Bryonia is one of the indispensable remedies, and its use is called for in all inflammations of the serous membranes. Should the patient appear not to receive much relief from the use of aconite within twelve or sixteen hours from the commencement of its use, then have recourse to bryonia, and give it alternately with aconite: use it of the first dilution, in ten-drop doses; its use must be steadily persevered in for some time. If the patient should still evince a tardiness in the disappearance of the more unfavorable symptoms, then omit either the aconite or the bryonia, and have recourse to *Phosphorus*, which is indicated when the mucous râle is readily heard; when the respiratory murmur is suppressed or very obscure, and particularly when the moist crepitus rhonchus is present. Use phosphorus of the tincture, in two or three-drop doses, and let it be mixed at the time it is given, or very shortly before: give it in distilled water. In some cases it is necessary to use phosphorus and bryonia in alternation for several days, ere any decided change for the better can be observed.

Antimonium tart. is indicated when those states are present which also indicate phosporus: give it in eight or ten-grain doses, dissolved in eight or ten ounces of water. It may be administered every three or four hours.

Arsenicum is indicated when debility is present; when the disease is epidemical; when typhoid symptoms are present. Use it of the second dilution, in five or eight-drop doses. Bryonia is good to alternate with it; or phosphorus, in such states.

Iodine is indicated when effusion has taken place in

the chest. Use it of the first dilution, in ten-drop doses, twice or thrice daily. Iodine must not be given for the effusion, except when the inflammatory symptoms have all subsided.

Sulphur is indicated when convalescence has set in, especially when the disease is complicated with bronchitis, and attended with a muco-purulent discharge from the nose.

It is seldom, however, that I meet with a case of pneumonia which does not readily yield to aconite, bryonia, and phosphorus. All these remedies are really invaluable, and must be placed in a high position as curative agents in this disease."

Anthrax.

Diagnosis.—This is a dangerous disease, which runs a rapid course, especially among sheep and swine, and suddenly terminates in death. All domestic animals are liable to it, especially cattle, sheep, swine, less frequently horses, and still less frequently dogs, especially in the months of June, July and August; the blood is altered, and there is a disposition to gangrene, especially in the spleen, but also in other parts of the body. We distinguish two forms of this disease: a. *Acute anthrax*, or the so-called St. Anthony's fire of swine, which destroys animals in a few minutes, and never lasts beyond twenty-four hours. The precursory symptoms, such as cold feet and cold tips of the ears, dragging of the hind quarters, vanishing of milk, are easily overlooked, the appetite still continuing. All at once a trembling, hurried breathing, anxiety and restlessness, with stupefaction, set in. At the approach of death a bloody

mucus flows from the mouth, nose or anus, and after tumbling down several times death takes place with a rattling noise and amid convulsions. b. *Chronic anthrax* seldom lasts beyond a week, sometimes a little longer; it generally commences with debility, loss of appetite and vanishing of milk, (which latter symptom is very important). After the disease has fully set in, the appetite is entirely lost; ears, nose and horns feel alternately hot and cold; over the whole body or only at the hind quarters a trembling is perceived, or a twitching of the skin; back part of the body is drawn forward from time to time; the breathing is anxious, intermittent, and sometimes accompanied with a short cough; the eyes which are fixed, are filled with tears, and in the case of some animals a bloody mucus flows from the nose, and most of them discharge a viscid phlegm from the mouth. The dung is scanty, hard and streaked with blood; afterwards the discharges become more frequent and softer; in general the symptoms in this disease vary a good deal. In most cases of this variety tumors of various kinds break out on the neck, head and chest, on the ribs and in the groins. In sheep and swine affected with the chronic form of anthrax, we discover sometimes, especially on the lower surface of the belly, red streaks and spots which soon become blue and gangrenous, after which death takes place very soon. Sometimes the tongue becomes affected by this disease in the following manner: the inner mouth becomes dark; the tongue is covered by vesicles which become gangrenous, break, and discharge an acrid ichor that first destroys the adjoining parts of the tongue which falls out in pieces, and the disease thence travels down-

wards, destroying the pharynx, œsophagus and stomach. In the case of hogs, the animal dribbles and grits its teeth; on the upper or lower surface of the tongue or on the palate, a vesicle of the size of a pea is discovered which soon turns black, and, unless help is afforded immediately, the animal perishes. What is termed anthrax of the rectum, in the case of sheep, cattle and swine, is a similar disease. The animal shows great thirst, has a violent fever, the dung is expelled with great tenesmus, in small quantities and is blackish, hard, mixed up with coagulated blood; the urine is frequently reddish. A fetid, bloody diarrhœa soon sets in, and death takes places. On examining such animals after death, it is found that the diseased parts are gangrenous and congested with dark blood. The spleen is generally very much distended, and resembles a coagulum of black-brown blood. Now and then a bloody urine is discovered in the bladder: bloody gangrenous spots on the abdominal viscera; yellow jelly-like and gangrened spots on the swellings; the flesh and skin are blue and bloody.

Causes.—We know from experience that this dangerous disease is infectious. Opinions differ as to the origin of the disease; it may be admitted that the disease is originally of atmospheric origin, depending upon local causes, and working upon a pre-existing disposition in the animal. This view is confirmed by the fact that the acute form of the disease, sometimes breaks out after long intervals in the same district, whereas other districts which are elevated and cool, remain entirely free from the disease.

Treatment.—The disease may be prevented by giving

a dose of *Aconite* on a certain day in the week, say Tuesday, and a dose of *Arsenicum* on the subsequent Friday. As soon as the first signs of the disease are perceived, a dose of the following remedies should be given every fifteen minutes: *Aconite*, after this *Arsenicum*, then *Nux vomica*, and lastly *Mercurius vivus*, then again *Aconite*, and so forth, in the same order, day and night, until an improvement sets in; after this is perceived, the above mentioned remedies may be continued in the same order every half hour or hour; on the third day every two hours; on the fourth every three; on the fifth every four; on the sixth every five, and on the seventh every six hours, even though the animal should seem perfectly healthy. If loss of appetite, eruptions, deficiency of milk, constipation, etc., should remain after the cure, treat these conditions as indicated under their respective heads. In anthrax of the tongue the pustules have to be removed from the mouth before they break of themselves; for, in this case, they would become fatal. To this end the jaws of the animal have to be kept apart by means of a gag, and the pustules have to be scraped out with a tin spoon, during which operation the head of the animal has to be kept low by an assistant in order to prevent the animal from swallowing any of the fatal poison. Afterwards the scraped pustules have to be washed off with a rag dipped in oil. This being done, a few drops of *Arsenicum* have to be dissolved in a little water, and the tongue is to be washed with this solution by means of a rag. This washing should be repeated several times a day. In doing this gloves have to be put on for the protection of the hand, in order to prevent the poison from touch-

ing the hand, and causing gangrenous spots, and subsequently death. In all these various forms of anthrax, *Aconite*, *Arsenicum*, *Nux vomica* and *Mercurius vivus* are to be given in the order above enumerated A bloody urine and blood-streaked dung do not always point to anthrax; and, if these symptoms occur, and anthrax is not to be apprehended, we have to treat these affections as indicated under hæmaturia, dysentery, etc. In the case of swine, anthrax is often confounded with quinsy, or inflammation of the throat. If taken in time anthrax can always be cured by homœopathic treatment; if an internal organ has already been destroyed by anthrax, no treatment can do any good, and the animal must inevitably perish. Men, as well as animals, are liable to the contagious qualities of this poison; hence the hands, face, or any other part of the skin have to be carefully guarded against all contact of the anthrax poison; and if any such contact should have taken place, the poison has to be washed off with the greatest care; if sore places have been touched by the poison, the fluids have to be carefully pressed out, and the sore washed with salt water, for on the infected parts, and also on other parts of the skin, blue or blackish dangerous looking blisters are seen starting up. In flaying a dead animal the greatest precaution has to be used. The investigation should take place in some remote part, when the body is quite cold. The operator should be perfectly free from all sores on the hands, and should wash them well after the operation; all animals that die of this disease should be interred in deep holes without being flayed. Diseased animals have to be separated at once from sound ones,

and have to be waited upon by a separate person. Acute anthrax is less contagious than chronic; we infer this from the fact, that of animals living together in herds, only one is killed now and then by the acute form, whereas the ravages caused by the chronic form are much more extensive.

Anthrax of Swine.

Diagnosis.—The hind parts become lame, the animal staggers to and fro, drags the hind legs, and is finally unable to rise again. Fever is present, the animal ceases to eat, grows thin, blisters break out on the tongue, and a diarrhœa sets in which may prove dangerous.

Causes.—The same as have been mentioned under sore and bristle-rot, which latter disease is sometimes the origin of the former.

Treatment.—If fever is present, give a few doses of *Aconite.* Afterwards give *Cocculus*, *Rhus toxicodendron*, *Arsenicum*, *Mercurius corrosivus*, and *Sulphur*, and in case of great weakness, *China.* The animal requires a dry bed, and, if the appetite return, give wholesome feed, such as shorts, meal, bran, etc.

Aphthæ.

Diagnosis.—These are little ulcers and sores occurring in the mouths of sucking calves or lambs; the mouth is filled with fetid saliva, in consequence of which the sucking of the little animals is impeded, and they grow thin.

Causes.—Bad quality of the mother's milk.

Treatment.—Give the mothers good feed, a wholesome shed or stable, and a few doses of *Sulphur.* The young

ones should be given *Acid. muriatic*, *Acid. sulphuric*, and *Borax;* if they cannot suck, infuse now and then a little milk into them.

Apoplexy.

Diagnosis.—Young, fat, plethoric horses, with short necks, are particularly liable to this disease. The animal either suddenly falls down dead, or else there are precursory symptoms like the following: vertigo, the animal holds the head down or leans it upon something, yawns, perspires slightly, etc. After these symptoms, the animal falls down all of a sudden, the circulation becomes disturbed and irregular, the eyes are red, protruded, and staring; the consciousness is gone, the breathing becomes short, labored, rattling, the body is covered with sweat and the eyelids are paralyzed. After a few convulsions, the animal dies; an improvement rarely takes place, still less a cure; relapses may take place, and partial paralysis is apt to remain. Epilepsy is distinguished from apoplexy by this, that in apoplexy the legs are not spasmodically contracted as in epilepsy, and that, after the epileptic attack is over, the animal seems perfectly healthy until the next attack sets in.

Causes.—High keep, bloating of the bowels, want of exercise, excessive exertions in warm weather, especially coarse-bred animals, when the throat is compressed too tightly by the yoke or the harness, or when the girth is too tight; exposure to the sun's rays and a sudden change of weather.

Treatment.—Place the head high immediately after the attack, and remove the harness, yoke, etc. Give a few doses of *Aconite*, apply cold affusions or cold water to the

head, give a few injections of tepid water in which a little salt has been mixed, and rub the animal well with wisps of straw, especially on the limbs and small of the back. *Opium* is serviceable if the pulse is slow and full during the attack, and *Lachesis*, if the pulse is feeble. If paralysis remains after the cure, give *Arnica*, *Petroleum*, *Rhus toxicodendron*, *Cocculus*, *Conium* and *Sulphur*; each of these remedies to be continued for one week in the order here indicated. The attack may often be prevented by giving the animal, as soon as the precursory symptoms are observed, alternate doses of *Aconite* and *Belladonna*, giving it light feed, sufficient exercise, and not exposing it to great exertions during the hot weather.

Atrophy.

Diagnosis.—This is a vanishing of the fat and muscular tissue, so that the parts seem perfectly shrivelled and shrunk. The affection takes place principally in the region of the loins and shoulders. The atrophied part is paralyzed, and the limb which is in rapport with the affected part, is lamed.

Causes.—Injuries, colds, internal psora, cause a disturbance of the nervous action.

Treatment.—The disease is always obstinate, and the cure slow. The principal remedies are *Arnica*, *China*, *Arsenicum*, *Sulphur*, *Rhus toxicodendron*, and *Sepia*. In warm weather, it is advisable to wash the affected part frequently with cold water, afterwards to dry it with woolen rags, and then to rub it with wisps of straw, in order to promote the revival of the nervous energy.

DOSE—Three drops, night and morning.

BARBEL.—*See Bursal Enlargements.*

Brittleness, softness of Bones.

Diagnosis.—This affection exists among cattle, and commences with painfulness of the extremities, so that the animals moan when trying to stand; they stagger when walking, and, when standing, raise now one leg, then another. After a while the animal, in spite of a pretty fair appetite, grows thin, loses its strength, lies down a good deal, and at last is unable to stand, on account of the softness of the bones. If forced to stand up, or when falling or receiving a slight blow, the bones are very apt to break. If the animals are killed, the bones are found very soft, and the marrow in the spine and bones is blackish, and more or less dried up. Generally a number of cattle in the same herd are affected.

Causes.—Deficient and unwholesome feed; damp and close stables.

Treatment.—An indispensable means of cure is a sufficiency of good, wholesome feed. Give every day a few doses of *Mercurius vivus*, which will soon effect a cure; if the disease has lasted some time, a few weeks may be required for a cure. Fractures of bones have to be avoided in such cases, for it might be impossible to heal them.

Broken Wind.

Diagnosis.—A disease of horses, cattle, and dogs. There is no apparent fever, and yet, while in perfect rest, the abdominal muscles and sides are moved much more forcibly and rapidly, the nostrils being dilated. On ascending an eminence, the movement of the sides and the dilatation of the nostrils are considerably increased,

with panting, rattling, and wheezing breathing, and short cough. Although the animal, if not worked too hard, eats well, and the discharges of dung and urine take place regularly, yet the symptoms become worse every time after eating. The coat looks unthrifty and pen-feathered, and horses and cattle shed their coats later than usual, and less frequently; the animal does not like to lie down, but when it does lie down, it is always with its legs stretched out, and without rolling. The mucous membrane of the nose and fauces is pale, and the animal is weak and faint. If the patient dislikes to lie down, the milk becomes less, and the animal chews the cud while standing, we may conclude that water is collecting in the chest.

Causes.—Chronic affection of the thoracic organs, especially of the lungs, generally arising from badly-managed pneumonia; adhesion of the lungs to the pleura, induration of the lungs, water in the chest, etc.

Treatment.—A few doses of *Bryonia*, *Squilla*, *Calcarea carbonica*, and *Nitrum* are very efficient. *China* and *Arsenicum*, when water is in the chest. *Aconite* and *Bryonia* in sudden cases, when pneumonia seems to have set in. In the case of horses and cattle, a cure is most speedily obtained, in spring, by mixing finely-cut thistles, dandelion, and green clover among the feed. In all cases, however, the cure is slow, provided it be at all possible. If the disease is too far advanced, no perfect cure is possible; the lungs, liver, and other organs, are generally involved to some extent. Two or three drops of the selected remedy may be given once a day.

Burns.

Diagnosis.—Hot swellings filled with water, or crisped, burnt and denuded skin.

Causes.—Injuries inflicted by the burning of a flame, boiling water, or heated bodies.

Treatment.—Apply heated brandy or turpentine, compresses soaked with *Urtica urens*, and give internally *Sapo communis* or *Urtica urens*. Blisters should not be opened.

Bursal enlargements, barbel.

Diagnosis.—These enlargements which appear on the legs of horses, from the fetlock-joint upwards, are round, soft, cold, and painless tumors of the size of a sparrow's egg to that of a hen's egg. These enlargements are seated near the fetlock-joint, at the point of the hock, and also on both sides of the hock; they are moveable, by pressure. They contain a yellowish fluid, and, at first, they do not seem to cause any pain. But, after awhile, they become hard, the horse becomes lame and more or less useless. Similar excrescences take place in the corners of the hoof, between the sides and the frog, most generally in the fore legs. The horse walks upon his toes with more or less anxiety and caution, or he is quite lame. In the neighborhood of the affected part, the temperature is more elevated, and pressure causes pain. On such excrescences, we notice red streaks, or blue and blackish spots, which, if recent, discharge blood, and, if more inveterate, pus. Unless something is done for this affection, it may cause much serious inconve-

nience. These excrescences on the hoof seem to be similar to the corns on the human foot, and to cause the same sort of pain.

Causes.—Such excrescences near the fetlock-joint, and at the hock, are not only hereditary, but may likewise be caused by excessive exertions, leaping, falling, slipping, etc. On the hoof such an enlargement is easily caused by the fleshy sole being too much pressed outward by the compressing encroachments of the horny substance, and being afterwards irritated and inflamed.

Treatment.—Swellings of this kind near the fetlock and hock, if recent and caused by external injuries, yield to *Arnica* and *Rhus toxicodendron*; if more inveterate, they are best treated with *Lycopodium* and *Arsenicum*, or with *Iodium*, *Hepar sulph.*, and *Sepia*. If the swelling is all round the hock, give *Arnica*, *Belladonna*, *Pulsatilla*, *Thuja*, and *Ledum*, in the order here indicated. Wash the place every day with fresh water, and rub it with the hand. If swellings of this kind befall the hoof, cut out the hoof as far as the redness extends, and bathe the wound frequently with *Arnica-lotion*. If suppuration has set in, the affected part has to be cut out as far as the sore in the fleshy sole, after which we bathe the wound with *Arnica-lotion*, and give internally, *Aconite*, *Conium*, *Antimonium crudum*, *Nux vomica* and *Squilla*. If the pus should have penetrated upwards behind the side of the hoof, this part of the hoof has to be cut off, in order to give the pus a chance to escape. Afterwards we resort to the same treatment as last indicated, and, if fistulous ulcers have developed themselves, we give *Pulsatilla*. If the fleshy sole protrudes in the opening made in the horny hoof, we give *Chamomilla* and *Arsenicum*. See

"*Ulcers*," for further information respecting the management of malignant pus.

Dose.—Give three or four drops of the remedies above mentioned, in the same rotation, about four hours apart.

Cachexia Aquosa.

Diagnosis.—This disease attacks principally cattle and sheep—principally the latter. The animals are weak and low-spirited, off their food, the eyes run, and the whites of the eyes turn yellowish; the interior of the nose and mouth, and the skin, become pale; mucus is discharged from the eyes, nose and mouth; the urine is yellow or dark red; the breathing becomes more and more labored and the breath has a fetid smell; the back part of the abdomen swells up as if dropsical; diarrhœa sets in, and the animal frequently perishes from exhaustion.

Causes.—Bad feed, marshy and damp pastures, in feeble animals, produce a number of worms in the liver, bile, and in the biliary ducts.

Treatment.—If the animals are not too much debilitated, *Graphites* and *Lycopodium* will prove useful. If the breathing be difficult, give *Helleborus niger*. In dropsical conditions, give *China*, *Mercurius solubilis*, *Nux vomica*, and *Sulphur*. Frequent doses of salt, careful attendance, good and nourishing diet, and avoidance of damp and wet pastures, are indispensable to a cure. If the disease is very far advanced, but little can be done.

Capped Hock.

Diagnosis.—A small, warm, soft, not very painful, moveable tumor at the point of the hock; gradually it becomes larger, firmer and more immoveable.

Causes.—Knocking the hock against the stable-walls, internal taint.

Treatment.—Frequent application of *Arnica-lotion*; *Sulphur* internally; *Thuja* for eruption or roughness of the hair at the point of the hock; *Rhus toxicodendron* when there is lameness; *Conium* and *Clematis* in inveterate cases.

Dose.—Three drops twice a day.

Caries of Bones.

Diagnosis.—This disease is preceded by an inflammation of the bone, discoverable by pressure upon the diseased part. The bone fills up gradually, suppurates, the adjacent soft parts swell, and fistulous ulcers form. The affected bones are dark-colored, rough, and porous; a knitting-needle can be stuck through them, and a foul ichor is discharged; or the bones seem full of interstices, and distended, and covered with excrescences.

Causes.—Inflammation of the bone, internal taint, or injuries affecting the bone.

Treatment.—A swelling of the bone from some internal cause is very dangerous. A few doses of *Sulphur*, followed by *Carbo animalis*, *Ammonium carbon.*, and *Acid. phosph.*, are good remedies for this disease. If caused by external injuries, use *Symphyt.* externally, and *Conium* internally. *Asafœtida* and *Silicea* are excellent remedies if suppuration has set in. *Acidum nitric.*, *Iodium*, and *Sulphur* have proved useful for caries of the feet. *Aurum* for caries of the head.

Dose.—Four drops of the appropriate remedy night and morning.

Castration.

Diagnosis.—This operation consists in removing the testicles and ovaries for the purpose of rendering them unfit for propagation, and thereby increasing their efficiency for agricultural purposes. The operation is sometimes followed by ailments which require to be removed. The principal of these ailments are inflammatory symptoms, tetanus, spasms fistulous, ulcers, etc. Stallions and bulls are castrated by burning or clawing their spermatic cords. The clawing is less painful and not accompanied by swelling. The testicles gradually become atrophied after the operation. It is a more simple and less dangerous process to tie the cords with strings, and afterwards to cut out the testicles: this proceeding is more particularly resorted to in the case of boars and large hogs. The best plan, however, is to tie the scrotum, whenever this is feasible, with a piece of tarred twine, after which the scrotum will shrink and finally fall off. Sows should never be castrated during the rutting season: in male animals the operation should not be undertaken until one or two weeks after the last performance of the sexual act. For want of this precaution dangerous accidents may occur, and terminate in the death of the animal.

Causes.—Every cold, cold-bathing, cold and damp stables, etc., shortly after the operation, is apt to cause inflammation or tetanus; tetanus is likewise apt to set in, if the operation takes place immediately after the sexual act; if the epididymis is not entirely removed, fistulous ulcers may form. If sows are castrated during the rutting season, they generally die.

Treatment.—The parts should be bathed with arnica-lotion immediately after the operation, and a few doses of *Arnica* should be given internally; this will prevent the fever and prevent undue swelling. If inflammatory symptoms set in, give *Aconite* every fifteen minutes. If *Aconite* proves insufficient after some hours, give *Arsenicum.* If tetanus threatens, give some doses of *Nux vomica.* For fistulæ, give *Pulsatilla.* (See "Fistulæ.") If, after the removal of the claws, the chords should bleed, the animal must be brought to the ground, and the cords have to be tied. Although, as a general rule, it is only when the operation is performed in a bungling and awkward manner, that it is attended by dangerous and sometime fatal results, it is likewise true that the operation, even if performed in the cleverest manner, is sometimes followed by death, in cases, for instance, where the animal has some internal vice which sooner or later would have terminated fatally, such as an accumulation of putrid water in the chest or abdominal cavity, affecting the intestines, and becoming changed to some malignant and incurable disease.

Cataract.

Diagnosis.—At first we observe behind the pupil, a misty, grayish dimness, which gradually increases and impedes the sight more and more. Frequently the dimness is surrounded by a black ring. After awhile the rays of light are no longer transmitted through the dimness, and the animal becomes blind.

Causes.—Neglected periodical ophthalmia; internal malady and hereditary disposition.

Treatment.—*Pulsatilla* for incipient cataract. *Euphrasia,*

Causticum, and *Cannabis* are useful remedies; *Antimonium tart.* when the evil is more advanced; *Sulphur* as an intermediate remedy, and to complete the cure. In inveterate cases a cure is impossible; hence the precursory symptoms and the causes have to be well observed.

DOSE.—Of the selected remedy four drops may be given twice a day.

Catarrh

Diagnosis.—This is a slight inflammation of the nasal mucous membrane. It commences with a chill, loss of appetite, sneezing or snorting, dimness of the eyes, discharge of a thin, watery mucus, which sometimes stops up the nostrils. With proper care the appetite returns, and the animal gets well. If the catarrh is neglected, the brain and lungs may become affected. If the brain is affected, the animal is nervous, or else stupefied, horses often seem frantic; if the lungs are affected, a violent cough sets in, the animal is weak, and the breathing labored. These symptoms may, under unfavorable circumstances, continue a long while, the mucous membrane may become ulcerated, and consumptive diseases, and even glanders, may develop themselves. We have already spoken of glanders and pulmonary phthisis; if sheep are affected by this disease, a profuse discharge of pus takes place from the nostrils, and the animal grows thin and dies. If the disease is far advanced, it becomes indeed contagious, but is not near as malignant as the glanders of horses, and is easily curable by proper treatment.

Causes.—A frequent cause of catarrh is suppression of the cutaneous secretions, especially when animals in

warm weather are suddenly exposed to a shower, or while heated to a draught of air, or to any other cause calculated to bring on a cold. In hot and dry summers, when the weather is apt to change suddenly, and the animals inhale a good deal of dust and dirt, a catarrh is very apt to occur.

Treatment.—A simple catarrh is easily cured by removing the causes that brought it on. *Mercurius vivus* shortens the difficulty, and if there be a thick discharge from the eyes, *Euphrasia*. For labored breathing and violent paroxysms of cough, give *Dulcamara*, *Chamomilla*, *Bryonia*, and *Spongia*. If the swallowing be impeded, and the animal be threatened with suffocation, give *Aconite*, and afterwards *Chamomilla*, and if the symptoms improve, *Belladonna*. If signs of encephalitis or stomach-staggers set in, give a few doses of *Aconite* and *Belladonna* to be followed by *Rhus toxicodendron;* if symptoms of vertigo with loss of consciousness set in, give *Opium*, *Digitalis* and *Arnica*. If profuse discharges of mucus take place under this treatment, a few doses of *Spongia* and *Bryonia* favor it still more. Alternate doses of *Silicea* and *Sulphur*, or of *Aconite* and *Chamomilla*, are likewise useful, also in nasal gleet of sheep. Catarrh differs from nasal gleet of horses in this, that catarrh is not contagious, nor do the laryngeal glands swell.

Chancre, Venereal Disease.

Diagnosis.—This disease affects both stallions and mares, and is known by abscesses, ulcers, and discharge of the sexual organs. Afterwards buboes form. Parts that originally have not been touched by the poison, now become affected. The inner mouth becomes red and swollen,

and ulcers break out on these parts. After this the nasal bones and cartilage become carious, giving rise to an offensive discharge. As the disease progresses, the gait of the animal becomes stiff and awkward, malignant ophthalmia develops itself, and the breathing becomes short; the animal becomes sadder and sadder, and finally dies in a most lamentable manner, unless help is afforded.

Causes.—A peculiar animal poison, which is most readily communicated to stallions and mares by the sexual act.

Treatment.—If taken in time, the disease may be easily cured in a couple of weeks, whereas, if neglected, it may become incurable. In order to prevent all irritation, the tail should be attached to one side by means of a bandage round the belly, and the sexual organs should be frequently washed with cold water; cold water should be likewise injected into the vagina and rectum. Give *Mercurius vivus*, one dose daily. In a few days crusts will form on the ulcers, after which the Mercurius may be continued less frequently. *Arsenicum* and *Thuja* have to be added to Mercurius, if the disease is far advanced.

Clicking, Forging.

Diagnosis.—By this term we designate a habit which some horses have, to kick the fore-leg with the hoof of one of the hind-legs, or one hind-leg with the hoof of the other hind-leg. Considerable injury is sometimes caused by this habit.

Treatment.—Bad shoeing is generally the cause of this defect; it may likewise arise from the fact, that the legs are too near together below, and that the hoof projects too far forwards. When shoeing the horse, leave as much

as possible of the hoof on the inside, and rasp it on the outside; the shoe should reach as little forward as possible.

Cold.

Diagnosis.—Even a slight cold is accompanied by more or less fever, pen-feathered coat, alternate coldness and warmth of the ears, loss of appetite, low spirits, etc.

Causes.—Exposure to a draught of air when overheated, drinking cold water when heated, cold and wet weather.

Treatment.—A few doses of *Aconite*, followed by *Dulcamara* or *Arsenicum*, are generally sufficient to remove the whole trouble. *Arsenicum* should be given, when the difficulty arises from drinking cold water while overheated; *Nux vomica*, when the animal is off its food; *Bryonia*, when the cold is characterised by outward symptoms; *Opium*, when the animal remains out of spirits.

Colic.

Diagnosis.—All domestic animals, but especially horses, are attacked by colic. This is a violent paroxysmal pain in the bowels, caused by spasms, a cold, worms, inflammation, etc. General signs of colic are these: the animal refuses to eat, looks to its sides, holds the nose close to the affected part, looking sadly at the persons standing near by, as though it meant to point out the painful spot. It paws the ground, kicks against the abdomen with the hind-feet, lies down, pushes its nose repeatedly against the ribs in the region of the pain, rises again, paws the

ground, kicks, lies down again, and continues these movements until the animal is unable to keep upon its legs. The ears and feet are alternately warm and cold, the eyes are protruded from their sockets, and the body is more or less covered with sweat. At this period, the horse falls down so violently that it seems as though the four legs were suddenly struck away from under its belly; or he squats, like a dog, upon his hind-quarters, rolls over, lies upon his back for a time, with the four legs stretched upward into the air, and generally behaves as if frantic. If recovery takes place, the intervals of rest become longer, and the paroxysms of pain become shorter, until the symptoms gradually disappear entirely. In the opposite case, if the pains get worse and become more frequent, the bowels become inflamed, and, if the pains, under these circumstances, disappear all at once, the inflammation terminates in gangrene, and the animal perishes. The various kinds of colic are each characterised by peculiar symptoms: in *spasmodic colic*, the pains are violent, but do not last long, the abdomen is somewhat distended, but not much, and there are frequent, but ineffectual urgings to discharge dung and urine; in *colic with constipation*, the animal kicks frequently at the abdomen, looks at its flanks, and the abdomen becomes distended; in *flatulent colic*, there is considerable distension of the bowels, sometimes a little wind is passed with great pain, after which the animal becomes quieter for a short period, when the pain returns again; in *worm colic*, which is a rare affection among animals, and is sometimes supposed to exist whereas some other variety of colic is really before us, the animal frequently turns up the upper lip, or rubs it against something, or it rubs the

hind-quarters, licks at the walls, draws in its flanks, and discharges a thin dung, which has a fetid smell, and is sometimes mixed with worms; in *inflammatory colic*, the previously mentioned symptoms become more prominent, the eyes are fiery, there is great restlessness, the lying down, squatting, and rolling upon the back become more frequent, the skin becomes colder, diarrhœa sets in without relief, and, if any of the above-named varieties should have lasted more than twenty hours, and inflammatory colic should result from it, the inflammation generally terminates in gangrene of the bowels and death. (Compare "*Enteritis* and *Gangrene*.")

Causes.—These are various; sometimes depending upon some internal taint, which may be inferred from the fact that otherwise healthy animals, and in good keep are now and then attacked with colic; whereas other animals, under the same circumstances, remain free from the disease; exposure, or a cold, will sometimes induce the most violent changes in the digestive organs, The attack may likewise be induced by too much, or too greedy feeding, or by eating hard, indigestible, flatulent, noxious, or unusual feed; worms, excessive exertions, etc., may induce the attack. Any attack of colic, if improperly managed, may terminate in inflammatory colic.

Treatment.—As soon as an attack of colic sets in, give *Aconite*, one or more doses at short intervals. This remedy is often sufficient to a cure. If the attacks should not cease in fifteen minutes after a few doses of *Aconite*, we may then give repeated doses of *Arsenicum*, or *Arsenicum* and *Aconite* in alternation, every few minutes. These two remedies will be found sufficient

in almost all cases. *Chamomilla* alternately with *Aconite* cures spasmodic colic. *Nux vomica* is a remedy for colic with constipation, discharges of small balls of brownish dung, or dung covered with mucus. *Colchicum* and *Belladonna* are the best remedies for flatulent colic, with distension of the abdomen, caused by flatulent food; *Carbo vegetabilis* if the colic is caused by heating feed (see "Tympanitis"). *Cantharis* and, in obstinate cases, *Hyoscyamus*, are the best remedies for colic with retention of urine. Alternate doses of *Ipecacuanha* and *Arsenicum* for colic with diarrhœa; *China* and *Marum verum* for worm-colic, when the animal kicks with the hind-feet alternately against the abdomen and backwards into the air; *China*, *Absynthium*, and *Mercurius solubilis* for worm-colic with drawing in of the flanks; *Digitalis*, *Ignatia* and *Stramonium* for worm-colic when the animal rubs its hind-quarters against something. If the paroxysms should get worse, and an inflammatory colic be apprehended, give *Aconite*, a dose every few minutes, until the patient is much better; if not entirely well in a couple of hours, give a few doses of *Arsenicum*, and if the animal still looks at its flanks, give *Rhus toxicodendron*. If constipation remains after the cold, give *Nux vomica* and *Opium*, and in obstinate cases, *Plumbum*, and if retention of urine remains, give *Cantharis* and *Hyoscyamus*. In all cases of colic the cure is promoted by giving injections of tepid salt water, and renewing them as often as the last injection is expelled again from the bowels.

Animals attacked with colic, must be prevented from tumbling down too suddenly and rolling over, especially in the case of horses and cattle; by tumbling down with

too much force, the stomach, bowels, or bladder might be ruptured; and by rolling over, the bowels might become entangled, and in the case of male animals, the bowels might protrude and hernia take place, which would inevitably be followed by death in a few hours. If the stomach bursts, vomiting sets in, and food is ejected from the mouth and nose. The best mode of preventing any sudden tumbling down and rolling over is to lead the sick animal about by the hand, and, if it threatens to throw itself down, to whip it and drive it about by forcible means. If the throwing cannot be avoided, we should take the animal to a place where there is an abundance of manure or straw, so as to give the patient a chance to tumble upon soft ground. After the cessation of the attack, but little feed should be given the animal, until the digestive functions are fully restored.

Constipation.

Diagnosis.—If this trouble is not purely symptomatic, and a disease by itself, the animal is dispirited, off its food, or eats slowly, the discharges of dung either cease entirely, or the dung is extremely hard and dark. If the trouble continues for some days, the animal becomes more restless, makes frequent attempts to evacuate the bowels but without success, expresses signs of pain in the abdomen by looking at the flanks, pawing the ground, etc.; the bowels become distended, the animal grows more restless, and other affections such as inflammation of the bowels, are apt to develope themselves.

Causes.—Dry, heating, rich, flatulent, heavy, unusual, spoiled feed, especially when the animal eats with avidity; over-heating, a cold, etc.

Treatment.—Give a few doses of *Aconite*, until the animal becomes more quiet. If the dung is hard, scanty, lined with mucus, and the abdomen is puckered up, give *Nux vomica*. If the animal lies down frequently without manifesting any pain, give *Opium* and *Alumina*. If a cold induces alternate constipation and diarrhœa, give *Bryonia*. If the animal makes frequent and painful attempts to evacuate the bowels, give *Natrum muriaticum*, and *Magnesia muriatica*. In obstinate constipation *Plumbum* is a good remedy. If inflammatory symptoms are present, and the animal expresses pain, give *Aconite* and *Arsenicum* in alternation. Injections of tepid salt-water are very useful in constipation.

Consumption.

Diagnosis.—Animals frequently grow thin in spite of the best feed, and yet they show a ravenous desire to eat, although generally there is an aversion to eating in such cases. They are very weak, and suffer either with diarrhœa or constipation.

Causes.—Internal maladies, weakness of digestion.

Treatment.—*Arsenicum* and *China* in alternation are the principal remedies. *China*, when there is a ravenous appetite, and *Antimonium crudum* when the patient is averse to food; *Nux vomica* when there is constipation; *Pulsatilla* in diarrhœa, and *Sulphur*, when the malady is of long standing, give three drops three times a day.

Contraction of the hoof.

Diagnosis.—The sides of the hoof are high and drawn in, the sole is hollowed out, and the cleft is deep, so that the horny walls become almost perpendicular or are even

turned inwards, and the balls seem compressed or pressed outwards behind.

Causes.—A principal cause is excessive dryness and brittleness of the hoof.

Treatment.—*Sulphur* and *Sepia* are the chief remedies; next to these we have *Squilla* and *Rhus toxicodendron*, especially when the parts are painful. In shoeing the horse, cut down the sides as much as may be, and make the toes of the shoe low and the caulkings high. Grease the hoof well.

Contusion.

Diagnosis.—The contused place either exhibits an open wound, or merely an ecchymosed swelling. If deep-seated parts have become contused, but little is perceived at the commencement; and when the trouble has become really manifest, it looks dangerous. Contusions about the head, and such as are accompanied by injuries of bones and joints, or of large blood-vessels, are the most dangerous.

Causes.—Contusions may be occasioned by blows, kicks, a fall, jam, etc.

Treatment.—Apply *Arnica-lotion* externally, and give *Arnica* internally. If a bone has become injured, *Symphytum* has to be applied externally and internally in the place of *Arnica*. If hæmorrhage is present, see this article, and "*wounds*."

Cough.

Diagnosis.—While coughing, the air is drawn in with an effort, and expelled again with a noise. Anything but air, if introduced into the air-passages, causes an irri-

tation and a cough which serves to expel again the foreign body. Many diseases in which the respiratory organs are involved, are accompanied by cough, such as inflammation of the throat, chest, broken wind, nasal gleet, distemper, hepatitis, hydro-thorax, phthisis pulmonalis, &c. Sometimes the cough remains, if these diseases are badly managed; sometimes cough occurs by itself, and, if it continues longer than a couple of weeks, may terminate in some pulmonary disease. If many cattle are attacked by cough at one and the same period, this may be regarded as a sign that epizootic-hydrothorax is threatening.

Causes.—Cough may be caused by foreign bodies in the air-passages; the principal cause is a cold by which the lining membranes of the air-passages are variously irritated.

Treatment.—It is of importance to know whether cough exists by itself or is symptomatic of other diseases. In the latter case, it disappears together with the removal of the disease. If caused by foreign bodies in the air-passages, it ceases as soon as they are coughed up. *Dulcamara* is useful for coughs arising from cold; *Aconite* and *Arsenicum* for cough after drinking; *Squilla* for cough after exertion; *Pulsatilla* and *Hyoscyamus*, for cough with frequently recurring paroxysms; *Aurum muriaticum* for cough which is rough and racking, coming deep out of the chest; *Chamomilla* for dry cough with diarrhœa; *Lycopodium* for cough with yawning; *Drosera*, *Belladonna* and *Sulphur* for chronic cough; *Bryonia* and *Cuprum* for chronic cough, when dry and rough. Of the appropriate remedy give three drops every six hours.

Cracked-heel, Grease

Diagnosis.—Horses are more frequently attacked by this disease than cattle. Coarse-bred cattle are peculiarly subject to it. Close to the fetlock of the hind and very seldom of the forefeet, a painful, warm tumor is formed. The hair is somewhat pen-feathered, and a clear liquid is at first secreted from the swelling, which soon, however, becomes viscid, fetid and so acrid that it destroys the roots of the hairs, and the animal becomes lame. By neglecting the disease, excrescences arise on the affected part, which are of a red-brown color, fleshy, readily bleeding and secreting a fetid liquid; these excrescences are condylomata or figwarts, and are always accompanied by lameness. The ichor may even burrow behind the horny hoof, and detach it from the foot. If the pastern joint is very much swollen and the hair stand on end like the bristles of a porcupine, we term this condition of the foot grease.

Causes.—Suppression of the cutaneous secretion; frequent colds, exposure to rough and wet weather; want of cleanliness; infection from other animals.

Treatment.—One dose of *Thuya* a day, is the best remedy even for inveterate forms of the disease, also if figwarts have already developed themselves; it is particularly effectual in alternation with *Sepia.* If the disease is so far advanced that this treatment is no longer sufficient, give a few doses of *Sulphur*, and afterwards *Secale corn.* in alternation with *Arsenicum.* In the worst stage of the disease, if *Thuya* prove insufficient, give *Sulphur* for eight days, and afterwards *Arsenicum*, *Mercurius solub.* and *Silicea.* In order to hasten the cure,

the diseased animal should not be allowed to stand in its own litter; it should be frequently rubbed with straw, and the sores should be washed every day with fresh water.

This affection has been so beautifully described by Haycock and Percival, that we deem it desirable to transfer it to this work.

"Cracked heels in horses is a very common malady, and as a consequence, most horsemen are familiar with it in some form or other. It prevails most during the autumn and winter-months. It sometimes confines itself to the hind-limbs merely, at other times to the fore-limbs, and on some occasions it may be observed in the heels of all the extremities. During the autumn and the commencement of winter, horses cast their summer-coats, which is attended with an unfavorable state of the system, a general debility is present, and while the organism is thus unfavorably circumstanced, cracked heels are no uncommon accompaniment."

Symptoms.—The animal may be unwell for several days; he may refuse his food; the hair over the surface of the body will look dry, be harsh to the touch, and present altogether a most unthrifty aspect; if he stand for a few hours in the stable, the limbs, particularly the hind ones, swell considerably. In a short time lameness becomes visible, and, if the skin of the heels be examined, it will be found cracked, and from these cracks will exude an offensive discharge; if the skin of one heel is cracked only, the lameness is more apparent; if in all the heels, the patient goes as though his limbs were as many posts; the skin of the legs will also be found to have become very tender, and if the disease be

allowed to go on, the cracks will soon become larger; they will assume a fleshy appearance, the discharge becoming more copious, of thicker consistency, and of a more offensive character.

Causes.—Coarse bred horses are the most liable to the disease, and if the heels of such are clipped, particularly during the prevalence of wet weather, or of wet in alternation with frost, the heels speedily crack and inflame. Poverty and uncleanliness, particularly when associated with wet, are prolific causes of it. The bringing up of young horses from grass and throwing them at once upon hard food, or the feeding of young horses with highly stimulating diet, with insufficiency of labour or exercise, are perhaps, in such animals, the most common of all known sources of the affection.

Treatment.—If the patient grows much hair within the affected heels, remove it at once close to the skin, and foment the limbs by placing them within a bucket of warm water. This will effectually remove all the dirt from the cracks and those portions of hair which may fall in during the clipping process; let the fomentation be continued for fifteen or twenty minutes, then rub the limbs perfectly dry with a wash leather or a soft cloth, and bathe the cracks with the following lotion: *Ruta Graveolens* 6 drachms, water 1 pint. This lotion may be used pretty freely three or four times a day. Give *Arsenicum* in five drop doses, morning and evening. Should the disease be of a very aggravated kind, the application of a bran poultice to the heels will prove of service; this, however, need not be repeated for more than two or three times. Should the affection be of long standing, and the cracks present that fleshy appearance which I

have spoken of, use the ruta lotion, and give arsenicum in alternation with sulphur, twice daily; or use in preference the arsenicum lotion to the heels, which lotion is made as follows: *Arsenic grains* 4 to *Distilled water* 1 pint. The administration of a *Sulphur powder* at the termination of the affection will always prove of benefit, particularly if it has not been used during the acute state. The diet should consist of mashes, boiled corn, carrots, and good hay; moderate exercise will also prove of benefit.

Grease.

The affection which I have last treated upon—namely, cracked heels, if neglected is certain to terminate in what is denominated *Grease;* in fact cracked heels may be said to be the first, or early stage of Grease. "The skin of animals," says Mr. Percival, "besides the important purposes it serves of being a universal covering to their bodies, and a nidus for the protection of hair, performs the part of an organ of secretion: its surface everywhere emits an exhalation, which, though at ordinary times insensible to us, is nevertheless constantly going on, and even in common life attracts notice the moment it issues in moderate quantity, and appears in the form of *perspiration.* In addition to this, there are parts of every animal wherein the skin produces secretions, or exhalations peculiar to those parts, and for specific purposes: the skin lining the ear generates a waxy matter for moistening and lubricating the auditory passages;" the glands in connection with the eyelids "secrete tears, which render the eye clear and bright." The glands in connection "with the skin of the heel of the horse pro-

duce a greasy matter, for the purpose of keeping the part (subject to such continual action as it is) soft and pliable." Now, Grease, in my opinion, arises in the first instance from a morbid action of an inflammatory nature set up within the skin and the glands in connection with it, but more particularly of the latter; but as I do not enter in this treatise upon any abstruse enquiries relative to disease, either in a general or specific point of view, I shall decline at present to discuss the opinions of others upon a question so interesting to the profession. What I propose is simply to furnish the reader with a plain description of the principal diseases of the lower animals, in order that those particular indications may be recognised which are the pole stars to the inexperienced in homœopathy in the application of the various medicines for the cure of such diseases.

Grease resolves itself into what Mr. Percival very aptly designates "its *simple form*, its *ulcerative form*, and its *grapy form*."

Simple Form.—"When a horse is attacked in the stable, the first indication observable is filling or swelling of the hind legs; which being suffered to go unrelieved, in the course of a short time works its own discharge in the form of drops of oily fluid clinging to the hairs in the hollow of the heel; the hairs themselves at the same time appearing erect, after the manner of bristles. The skin of the heel—perceptible in a *white* heel—exhibits a blush upon its surface, and feels hot and greasy, and has a peculiar, loathsome odor. Should any attempt be made to take the foot up, the animal convulsively catches it off the ground, or at least manifests considerable reluctance to have it handled. The horse may go stiff on

first leaving the stable, but seldom at this early stage does much lameness exist. From this time, however, the inflammation, discharge, and swelling continuing to increase, the horse becomes so painfully sore and lame, that, for fear of flexing his heels, he straddles with his hind legs as though he could hardly walk out of his habitation, which he does in the most awkward and unwilling manner possible; while his heels and parts adjacent have become so exquisitely sensitive, that it is now really dangerous even to touch him, lest by the sudden and lateral direction in which he catches up the limb an untoward blow might be the consequence." In this state exercise will be found to afford the animal relief, "for after walking for a short time he will step out more boldly, and at length hardly limp at all."

Ulcerative Form.—The ulcerative form is but the second stage, as it were, of Grease; the inflammatory action going on within the structures of the affected limb, becomes so severe, and the swelling so excessive, that the skin no longer possessing its former softness and pliability, splits, or cracks, and speedily presents to the notice of the observer one or more deep fissures, from which exudes an abundant and a very offensive purulent discharge. As the malady proceeds these fissures increase both in number and in extent; they appear to penetrate more and more into the substance of the limb, in which way "the disease will extend, laterally, around the sides of the pastern; and upwards, over the back of the fetlock, even half-way up the back of the leg: the tumefaction all the while keeping pace with the ulceration."

Grapy Form.—"The third and inveterate form of

Grease is the *grapy*. The skin, inflated and tumefied and cracked, and in places ulcerated and still subjected to the irritation and aggravation of discharges of the most loathsome and malignant nature, now begins itself to undergo a change of structure, and to generate products of a morbid kind." From these cracks, or sores, are sent forth new growths, which are of a bright red color, and in form they are not unlike little bunches of grapes, "or were it not for color, like a full-blown cauliflower." These grapy-like excrescences "grow from the heel, rarely from the pastern and coronet; and spread up the back part of the leg, but never reach the hock." At first these growths are highly sensitive, but this sensitiveness becomes in time less and less, "they become indurated, insensible, cartilaginous, and even horny, which would appear to be their final conversion. Other changes accompany these: the hair gradually falls off, leaving the grapes either destitute of any at all, or but very thinly beset with them, and those few in a state of erection, like bristles upon a hog's back. From such parts of the skin as remain unoccupied by grapes, and from the crevices between them, is still issuing a greasy, rancid, and most offensive discharge, here and there mingled with blood. By this time, also, the leg has acquired an enormous bulk, from which circumstance alone, independently of its sore and painful condition, the action of the whole limb is greatly impeded." In other cases again, the malady appears to attack the feet of the greasy limbs; it spreads from the heels to the frogs and the soles of the feet, and so rapidly destructive is its progress, that the frog, and the horny, and the sensitive soles,

become one mass of rottenness, diffusing an odor "which is smelt ere it is seen."

Cause.—Coarse-bred horses are the most liable to Grease. Its cause, in the general run of cases, may be stated in a few words: uncleanliness, allowing the animal to stand for days in his own litter, gross feeding, long exposure of the legs to wet during the winter season, or working the animal for a considerable time in water. In many horses there is, as it were, within them, an hereditary tendency to manifest it from the action of the most simple of the exciting causes. The ulcerative form will frequently follow upon the simple form in spite of everything at first, but it is only from the most gross neglect on the part of some one if the grapy form is allowed to appear.

Treatment.—When the disease is present in any of its forms, regard must be had at once to cleanliness and to the diet. Remove the hair carefully from the sores. Cleanse them well with tepid water and soap, and diet upon food as little stimulating as possible. If it be the simple form of Grease, administer *Arsenicum* in five-drop doses, thrice daily. The *Ruta Lotion* must also be used externally at the commencement, which in a day or two may be advantageously changed to the *Arsenicum Lotion*. Should the pulse be accelerated and the patient feverish, give a dose or two of *Aconite*. *Bryonia* is also occasionally of service alternated with *Belladonna*. These remedies are required when the swelling extends high up within the limbs, while sulphur, in grain doses of the first trituration, once a day, for a few days, will generally complete the cure

If the ulcerative stage has set in *Arsenicum* is still the

principal remedy, with *Ruta Lotion*, changed to the *Arsenicum Lotion*, while the best remedies for internal use are—*Arsenicum*, *Belladona*, *Silicea*, *Hepar sulphuris*, *Mercurius*, *Calcarea carbonica* and *Sulphur*.

If this second state be of considerable standing, a dose of *Arsenicum* may be given once or at most twice daily, for four or five days in succession; then miss a day or two.

Mercurius is also a very proper remedy. It may be given once a day in grain doses of the third trituration, for several days in succession; then miss three or four days, and give a dose of *Sulphur* of the first trituration.

If the discharge should continue abundant, have recourse to *Silicea*, in five drop doses, once a day for four or five days, and miss three days, or even more, if the discharge abate.

Sometimes it is productive of good to give the silicea and the sulphur in alternation—a dose of the silicea one morning, and a dose of the sulphur the morning following, and so on in alternation for several mornings.

Grapy Form.—When the grapy form is of considerable duration, and extending high up the limb, it is seldom that much good can be effected unless the treatment is steadily persevered in for a long time. The *Arsenicum Lotion* must be used as before, directed with *Arsenicum* internally, alternated with *Silicea* or with *Calcarea*. *Sulphur* is also an indispensable remedy. Give it two or three days in succession, in grain doses of the third trituration; then miss four or five days and begin again. If the patient is not worked, he will require exercise. The diseased limb must also be effectually covered from dirt and from the action of

the air upon it. I have sometimes painted limbs thus affected with very thick white paint with a most capital result."

Cracked Hoofs, Sand-crack.

Diagnosis.—The hoofs of horses and cattle may crack either horizontally or vertically; the hoof of the fore-feet is particularly liable to this affection, and especially the side of the hoof. The crack generally follows the course of the horny laminæ, and does not extend beneath the horn; sometimes the crack extends more deeply, causing a bleeding and lameness.

Causes.—Brittleness and thinness of the sides; excessive filing of the sides; clumsy nails; injuries of the corona; burning with hot shoes, etc.

Treatment.—The hoof should be kept clean, and should be frequently greased with lard. The cracked part should not be touched by the shoe, nor should any nails be driven in in the neighbourhood. If impurities should have got into the fissure, remove them by means of water, and close the fissure with soft wax. Internally give *Arnica*, *Phosphorus* and *Sulphur*, or *Squilla*, *Silicea* and *Sepia;* if the fleshy sole is inflamed, give a few doses of *Aconite.*

Crib-biting.

Diagnosis.—This is a troublesome and sometimes very obstinate affection of some horses. It acts in two different ways: either the horse raises his head, and, pressing the incisor teeth firmly upon the edge of the crib, drops the lower jaw and belches up wind; the horse indulges in this habit while attached to the crib and

eating his feed, the consequence of which is that the feed drops out of the mouth before it had been swallowed, and that the anterior edge of the incisors is considerably blunted. Other horses simply belch up wind without biting upon the crib, and the whole body shakes when belching up the wind.

Causes.—The affection may remain after gastritis; or it is hereditary, or arises from ennui, or it is a habit acquired by example.

Treatment.—*Nux vomica*, *Arsenicum*, *China* and *Pulsatilla*, are useful remedies for crib-biting. It may be well to institute the following proceeding to effect a cure in some cases. Draw up the crib, which should be of light construction and about three feet long, by means of ropes winding over rollers attached to the ceiling directly over the crib; these ropes are to be passed through holes bored in the bottom-board of the crib, which is to be a few inches longer on each side than the front-board, so that the holes may be bored through these projecting borders; to the ends of the ropes stones of sufficient weight are to be attached, so that the crib, after being pressed down by the horse during the act of biting, will suddenly strike against the horse's teeth as soon as the animal releases its hold, and inflict sufficient pain to warn the animal to desist from its vicious habit.

Crown-scab.

Diagnosis.—A fissure in the upper border of the crown, with a hot and painful swelling supervening after a short period. The animal frequently raises the affected foot, and drags it when walking. If the affection is left un-

attended to, a malignant, fistulous ulcer, *coronal fistula*, is liable to develope itself, (See "Fistulæ.")

Causes.—It is caused by a kick from some other horse upon the hoof.

Treatment.—The wound has to be cleansed at once with water, and, if necessary, the hair all around should be cut off. Afterwards a linen bandage should be tied round the wound, and *Arnica-lotion* applied; if the wound is deep, *Arnica* may likewise be employed internally. For coronal fistula *Pulsatilla* and *Lachesis* have been given with success.

Crusta lactea.

Diagnosis.—This eruption affects calves in the first six months of their existence. Around the lips, nose, eyes, ears, and on the neck, but rarely on other parts, small, white pustules break out, emitting a viscid humor which changes to thick blueish-white scurfs. They do not itch, but are contagious. The crusts fall off, but new ones form in their places. The little animals grow thin, and may perish.

Causes.—Bad quality of the mother's milk; damp, unclean stables; bad feed, cold, etc.

Treatment.—One dose of *Dulcamara* a day cures this eruption; in obstinate cases *Veratrum* and *Dulcamara*, may be given in alternate doses. If the appetite should be gone, give *Pulsatilla*. After the eruption has disappeared, give a few doses of *Sulphur*. The sick animals have to be separated from the healthy ones. After the cure the stable has to be well cleaned, and the manger to be washed with lye and water.

Curb.

Diagnosis.—Swelling or knots of the posterior flexor-tendons, in the case of horses, along the posterior surface of the fore-leg down to the fetlock. When first arising, the swelling is warm, painful, lancing, and the leg is moved cautiously and awkwardly along.

Causes.—Blows, kicks, contusions, straining of the flexor-tendons; violent exertions on hard soil.

Treatment.—In the beginning apply *Arnica-lotion* externally, and give *Arnica* and *Rhus toxicodendron* internally; *Phosphorus*, *Silicea* and *Sepia* are likewise useful. Allow the animal sufficient rest. In neglected cases, give *Sulphur; Conium* and *Lycopodium* are useful for hard tendinous swellings; *Belladonna* and *China* when small tubercles are observed in the hardened swelling, and *Mercurius vivus*, when the skin is hard and rigid.

Cystitis—Inflammation of the Bladder.

Diagnosis.—Cattle and horses are most frequently attacked by this disease. The animal generally behaves as when attacked with colic or enteritis, except that there is moreover a continual and painful desire to urinate, with discharge of a few drops of brown or bloody urine. The dung is hard and scanty. By inserting the hand into the rectum, the bladder can be felt under the rectum, distended with urine, hot and painful. When walking, the animal expresses signs of pain in the hind-quarters. The appetite is entirely gone, but the thirst is very great.

Causes.—Keeping back the urine; colds; blows, etc.,

in the renal region; gravel, calculi in the urinary organs, or the presence of some other irritating matter.

Treatment.—One dose of *Aconite* every fifteen minutes, generally causes an abatement of the symptoms in four doses; afterwards give a few doses of *Cantharis*, one every hour. If the urinary secretions should still remain arrested after a few doses, give *Hyoscyamus*. If external injuries are the cause, give *Arnica*. The cure is promoted by giving the patient injections of tepid water and a little salt.

Diabetes.

Diagnosis.—Horses, cattle, sheep and dogs are liable to this disease. At first there is a copious flow of thin, watery urine. Afterwards a lentescent fever supervenes; the animal grows thin, the appetite decreases more and more, the thirst grows worse, the urine becomes darker and more painful, bloody and sometimes quite cold even at the time of voiding it. Sometimes several animals of the same species are attacked together, in which case it can be traced to the feed.

Causes.—Cold; damp sheds or stables; wet or frozen herbage, or feed that has powerful diuretic properties.

Treatment.—After removing the cause, *Lycopodium*, *Mercurius vivus* and *Carbo vegetabilis* will be found most useful. If the urine is watery, but painful, give *Acidum phosphoricum* and *Pulsatilla;* if reddish, give *Staphysagria;* if bloody, *Ipecacuanha*, and afterwards *Phosphorus;* if cold, *Acidum nitricum*, and, in the case of dogs give more particularly *Ferrum* and *Pulsatilla*. The cure is promoted by giving frequent injections of tepid salt water.

Diarrhœa, Dysentery.

Diagnosis.—This disease occurs more frequently in young and old, than in cattle of middle age; the dung is loose and afterwards becomes liquid, flows down along the hind-quarters, and is sometimes spirted out to a distance. At times it is mixed up with undigested food, and the animals are very much debilitated. If the diarrhœa is not too violent, and the animals remain lively and strong, without fever; if they do not lose their appetite, and the loose dung is without bad smell, and is discharged without tenesmus or pain; the diarrhœa may be looked upon as a curative effort of nature, intended to remove some morbid matter; a sudden suppression of such a diarrhœa might be followed by the most pernicious consequences. Long continued diarrhœa by which the animals lose their liveliness, strength and appetite, are attacked with chilliness and heat, the loose dung is discharged with pain, and mixed up with blood and mucus, and spreads a bad odor, has to be treated by appropriate remedies. Sucking young ones are particularly liable to diarrhœa, which debilitates and frequently destroys them. The diarrhœa is termed dysentery when it is accompanied by violent fever, colic, frequent urging and passage of small quantities of dung mixed with blood and mucus, aversion and inflammation of the rectum; the animals are off their food, look sad and prostrate, emaciated; the dung and the cutaneous secretions have a fetid odor, and the disease affects a number of cattle at the same time, in the same district.

Causes.—In full grown cattle the disease is caused by hard, flatulent, spoiled food, difficult to digest, putrid

water, etc.; also by cold on the stomach contracted by drinking cold water, to which the animal is not accustomed; exposure to damp and cold weather, and in consequence of debilitated constitution. In suckling animals the disease is apt to be caused by the milk which they suck from the mother after she has partaken of spoiled food or become overheated by fatigue. Dysentery is generally contagious.

Treatment.—Simple diarrhœa is sometimes easily cured by simply removing the causes that give rise to it, by keeping the animal warm, in a warm box, and feeding it on sound, dry feed. Remedies for continual diarrhœa are: *Ipecacuanha*, which helps in most cases; if the animal has fever, give first *Aconite*, and afterwards *Ipecacuanha*; if the stool is spirted out to a distance, accompanied by colicky or other pains, or if the diarrhœa is caused by bad diet, *Arsenicum* should be given instead of *Ipecacuanha*. Give *Oleander* and *Acid. phosphori.*, if the diarrhœa is watery. *Asarum*, if papescent dung mixed with red mucus, is running down the hind-quarters. *Antimonium crud.*, if diarrhœa and constipation alternate. *Arsenicum* and *Pulsatilla* are remedies for the diarrhœa of suckling animals arising from the bad quality of the mother's milk; the mother should be given *Sulphur*, and better and more nutritious food. In dysentery the same remedies are to be used that have been recommended for diarrhœa; if insufficient, and the bowels should seem very much inflamed, we give first a few doses of *Aconite*, and afterwards *Arsenicum;* next to this a few doses of *Mercurius corrosivus*, *Rheum* and *Chamomilla*. If the animal is convalescent, we give first only a small quantity, but sound and dry food.

Dimness of the Eyes.

Diagnosis.—Dimness of the internal humor; neither the lens nor the capsule is affected, which may be ascertained by looking at the eye sideways; this affection should not be confounded with cataract.

Causes.—Weakness of the eyes.

Treatment.—*Cannabis* and *Natrum muriaticum* remove the difficulty in a short time. If the cornea be dim, give alternately *Cannabis* and *Belladonna.* Give *Sulphur* to complete the cure. Of the appropriate remedy give three drops morning and evening.

Distemper.

Diagnosis.—Young pups are principally liable to this disease. Some of them are attacked twice by it. The general symptoms are: a discharge of thick mucus from the reddish eyes and sore nostrils; debility, lowness of spirits, and loss of appetite; the dog coughs a good deal, lies down most of the time, has convulsions, staggers about, drags the hind-legs, falls down frequently, grows thin, is finally paralyzed all over, becomes costive, or sometimes is seized with diarrhœa, and frequently perishes amidst convulsions.

Causes.—Colds, bad keep, premature or suppressed sexual gratifications; the disease may be contagious.

Treatment.—A few doses of *Kali carbonicum*, and afterwards *Rhus toxicodendron*, *Cocculus* and *Belladonna.* If there is loss of appetite, constipation and vomiting, give *Nux vomica*, and if there be diarrhœa and vomiting, give *Ipecacuanha* and *Veratrum.* The cure is promoted by plunging the dog twice a week into a tepid bath for

about ten minutes, and rubbing the hind parts strongly with a woolen rag, and afterwards placing him on a warm bed. If a twitching of the limbs should remain after the cure, give *Anacardium* and *Platina.*

Docking.

Diagnosis.—By curtailing a horse's tail, the external shape of the animal is sometimes embellished, and the value of the horse is considerably enhanced; but the operation may likewise be followed by unpleasant consequences, such as inflammation, gangrene, fistulous ulcers, tetanus, etc.

Causes.—Such accidents are generally attributable to bad management after or during the operation.

Treatment.—*Arnica*, used internally and externally in season may prevent such accidents. If inflammation has set in, *Aconite*, *Arsenicum* and *Arnica* may be used alternately. *Pulsatilla*, if fistulous ulcers form. *Nux vomica* in repeated doses for tetanus. Give three drops every six hours.

Dribbling of Urine.

Diagnosis.—Horses and dogs are subject to this weakness; the urine passes off in drops, and continually.

Causes.—Lameness of the sphincter of the bladder.

Treatment.—*Pulsatilla* is a chief remedy: *China*, *Petroleum* and *Spigelia* are likewise useful, and, if the urinary organs are wounded, give *Arnica* and *Ferrum metallicum.* Give a dose every six hours.

Dropsical Swellings.

Diagnosis.—These swellings break out on the lower belly and on the legs, especially the hind-legs, of horses

and cattle; they are cold, and, if pressure is made upon them with the finger, the impression remains for a time. They are not painful. If these swellings are accompanied with loss of appetite, prostration, staggering gait, or if the feet swell, we may look upon these symptoms as denoting *dropsy*.

Causes.—Cold, musty feed, mismanagement in other diseases.

Treatment.—*China* and *Arsenicum* are excellent remedies. *Lycopodium* when the swellings are considerable; *Belladonna* for spongy and crepitating swellings; *Bryonia* after a cold and when there is a costiveness. *Antimonium crudum*, when the dung is hard; *Dulcamara* for sudden swellings after a cold, or when symptoms of gleet break out; *Pulsatilla* and *Arsenicum* for swellings developing themselves as consequences of other diseases, with diarrhœic discharges, or *Bryonia*, when there is costiveness. *Sulphur* completes the cure.

DOSE.—Give three drops morning and evening.

Dropsy.

Diagnosis.—This is an anomalous accumulation of water in some part of the body; we distinguish particularly ascites, hydrothorax, and anasarca. In ascites, the abdomen is distended, and, when laying one hand flat on one side of the abdomen, and striking with the other hand on the opposite side, the water in the abdominal cavity can be perceived by a fluctuating noise. In hydrothorax, the animal becomes gradually feeble and languid, the breathing is extremely labored, the pulse is feeble and irregular, owing to the pressure of the water upon the heart, and the fore legs are standing apart. By

striking with the hand upon the chest, the motion of the water in the chest may be distinctly heard. In anasarca, the water collects in the cellular tissue under the skin, causing considerable swelling of the same; if pressed upon with the finger, a pit remains for some time, ere it fills up again. The swelling generally commences at the feet, whence it spreads, and, in anasarca, involves the whole body, in which case ascites and hydrothorax supervene. Anasarca is frequently the result of some internal disease. Dropsical diseases are generally accompanied by dryness of the skin, loss of appetite, violent thirst, scanty secretion of urine, slow digestion, debility, paleness of the inner mouth and eyes, emaciation, prostration which often ends in death.

Causes.—Sudden cold which is neglected, inflammation of the lining membranes, bad feed, close and damp stables, neglected diseases; by these causes the equilibrium between the processes of absorption and secretion may be disturbed, and the internal cavities may become filled with the secreted substance.

Treatment.—China and *Arsenicum*, in all forms of dropsy, are the best remedies, provided the disease is still curable. *Lycopodium* is a good remedy for external dropsical swellings. In ascites, *Dulcamara*, *Helleborus niger*, *Arsenicum*, and *China*, may be used with advantage. If hydrothorax arises from inflammation of the chest, *Nitr.* and *Pulsatilla*, are excellent remedies; in anasarca, give *Dulcamara* and *Helleborus niger;* and if constipation, urinary difficulties and dry cough set in, *Colchicum* may be resorted to. The remedies recommended for "*dropsical swellings*" (see this article) may likewise prove useful. Internal dropsies, especially hydrothorax, are

sometimes overlooked at the commencement; the looks of the animal deceive one, for instead of losing, it frequently seems to gain. Sometimes ascites and hydrothorax are only recognised in the last stage of the disease, or when a post-mortem examination is made.

Dose.—Give three drops every six hours.

Dysentery, see *Diarrhœa.*

Dysuria, Ischuria, Retention of Urine.

Symptoms.—This disease occurs among horses, cattle and dogs. The urine is either entirely arrested, or else it comes off in drops, with repeated and painful urgings. The animal is restless, paws the ground, strikes the abdomen with the hind feet, as if tormented by flies, looks at its flanks, throws itself on the ground, rolls about and then rises again. Since the animal shows similar movements in an attack of colic, and there is doubt as to the real character of the disease, we introduce the hand into the rectum, when the bladder will be felt distended and hard under this organ. In nephritis the urinary secretions are likewise arrested, in which case the animal is less restless, and the bladder is found empty. If there is reason to suppose that the retention is owing to the presence of calculi, see "*Lithiasis.*"

Causes.—Keeping back the urine, colds, drinking cold water while over-heated, incarceration of stone or gravel in the urethra, all of which causes may induce spasmodic stricture or inflammation of the urinary passages.

Treatment.—Give first a dose of *Aconite*, and afterwards, in fifteen minutes, a dose of *Cantharis.* If no urine is voided in a few hours, give *Hyoscyamus*,

especially if the urine had been kept back. *Acidum phosphoricum* is useful in painful urging to urinate; *Pulsatilla*, when the feet are cold, and *Squilla*, when they are hot. Give at times an injection of tepid water, which will serve as a quieting fomentation on the subjacent bladder. A speedy remedy is to bury the animal in sheep's dung as far as above the abdomen for about an hour, and after taking the patient out again, to cover him well with warm blankets. If no help is afforded, the animal dies on the second or third day. We have to guard the animal against throwing itself down in a violent manner, lest the distended bladder should burst, and the animal should perish in consequence.

Encephalitis—Inflammation of the Brain.

Diagnosis.—The signs of this disease are unmistakable. At first the animal is low-spirited, awkward, listless. It is off its food, the legs are turned backward under the belly, the head is hanging low. The ears and head are hot, and the breathing is hurried and anxious. The eyes are inflamed, red and protruded from their sockets. The animal is plunged in a sort of rage, runs with its head against the wall and other objects, without expressing the least sign of pain, even though the head should be much injured in consequence; in the open air the animal turns about in a circle, from right to left, or from left to right, until it falls down prostrate; it wants to rise again, but falls down immediately, and continues rising and falling until it finally remains down for a time in a state of rest, after which the paroxysms of rage recommence. This process continues at intervals. The larger animals, such as horses and cattle,

cannot be kept bound, for they tear every thing in the shape of ropes and chains; hence it is best to allow them the free use of the stable.

Causes.—If there exist a disposition to this disease in the animal, the outbreak of the disease is favored by suppression of the cutaneous secretions, the excessive use of heating feed, little exercise, great heat, the action of the sun's rays upon the head, want of sexual gratifications, blows upon the head, etc.

Treatment.—At the outset the animal has to be placed in a stable or loose box in perfect freedom, and a dose of *Aconite* has to be given for a couple of hours every five or ten minutes. Afterwards give a few doses of *Belladonna*, and if this should not be sufficient, give *Hyoscyamus*, and *Veratrum*. *Opium* is useful when the disease is caused by the action of the sun's rays, and *Cantharis*, when caused by want of sexual gratification in animals that had not been castrated. These remedies should be repeated as often as may seem required.

Encephalitis, chronic.

Diagnosis.—In this disease of horses the brain is principally involved. The horse becomes lazy, awkward, inattentive, and prefers eating hay off the ground than out of the crib; he eats and drinks by fits and starts, after eating he hangs his head under the crib and is unwilling to have it raised up again. The staring and dull look, the peculiar manner in which he moves his ears, the heavy lifting and putting down his feet, especially the fore feet, as though he were walking in water, impart to the horse a silly appearance, and all the movements of the horse indicate a certain absence of mind.

The symptoms of this disease have various degrees of intensity. Some of the signs by which this disease has been supposed to manifest itself, such as that the horse does not change the position of the fore feet when placed cross-wise, or does not withdraw his head when a finger is inserted into the ear, or does not remove the foot when the crown is stepped upon, etc., are fallacious. Gentle horses will often submit to this kind of treatment without offering any resistance, whereas horses affected with chronic encephalitis, often act in a contrary manner. By instituting the following proceeding, the existence of the disease may be known with tolerable certainty. After removing all causes of excitement, noise, etc., the horse is to be left quiet for a few minutes, when he will go into a state of apparent thoughtfulness and unconsciousness. Then take hold of the reins and turn the horse rapidly to one side or the other; this will throw him off his equilibrium, he will advance one leg before the other in an awkward manner, and, after being turned about, he will remain standing in an irregular posture; generally the fore legs are placed cross-wise, or one of them bent in the knee-joint, and resting on the toes, drawn back under the abdomen. Were a horse ever so heavy and tired, he will, nevertheless, when turned in this manner, place his legs in a manner corresponding to the stature and shape of the animal.

Causes.—Generally there prevails an hereditary disposition in horses that are attacked with this disease. This disposition is excited into action by blows upon the head, a badly managed inflammation of the brain, suppressed gleet, violent exertions in hot weather, close and warm stables, heavy feed, want of sexual gratifications · mares

are more inclined to the quiet form of this disease, stallions more to rage from ungratified sexual instinct.

Treatment.—*Chamomilla*, *Belladonna*, *Anacardium*, *Veratrum*, are principal remedies. These remedies may be tried one after the other, a few doses of each, a dose morning and evening, and the one which seems most suitable may afterwards be continued for a time. *Arnica* is particularly useful, if the disease is caused by violent injuries of the head, and the horse inclines to the right side in walking. *Nux vomica*, when the dung is hard and covered with mucus, or the horse inclines to the left side in walking. *Cantharis* and *Opium*, when the disease arises from want of sexual gratification, in the case of stallions; in the case of mares, for similar causes, give *Pulsatilla*, *Cantharis*, *Platina* and *Sabina*. *Sulphur* may be given to complete the cure. A cure is most easily effected in Spring, when the animals can be fed on fresh grass, dandelion, etc., mixed up with some bran or oats, and they can be kept in an airy stable and have exercise in the open air; the cure is promoted by frequently bathing the upper part of the head with cold water; if mares are diseased, it is well to put them with a stallion; this proceeding is less useful to the stallion, if he should be the patient; castration is to be rejected as hurtful. While the mare is with young, the disease seems to be arrested, but breaks out again as soon as the foal is born, or when the mare again becomes ruttish, especially if they work too little or are fed too well. After the cure, a disposition to relapse remains; hence the animal has to be guarded against the above mentioned causes. A horse of this kind should not be purchased.

Enteritis, Inflammation of the Bowels.

Diagnosis.—The symptoms are like those of colic, except more marked. A principal symptom is great restlessness; frequent lying down and rising, with signs of pain in the bowels; hard and quick pulse; hurried breathing, red and protruded eyes, ears and feet alternately cold and warm, pawing and kicking, violent thirst, curving of the back, constipation, retention of urine or diarrhœa without improvement. Hogs chew and grunt almost continually; dogs show increased signs of pain, when their bowels are pressed upon; pressure causes vomiting in both kinds of animals. If the disease lasts a few days, and if there is a sudden disappearance of pain, this is a sign that gangrene has set in. Feet and ears become quite cold, the heart beats spasmodically, and, after a while, the animal rolls over dead. An improvement takes place with slight relapses or a recurrence of previous symptoms.

Causes.—Deleterious feed; colds; injuries inflicted upon the abdomen; badly managed colic lasting upwards of twenty hours, and terminating in enteritis; animals afflicted with colic, may so injure themselves by heedless rolling over, that enteritis may be the consequence.

Treatment.—*Aconite*, eight doses, one dose every fifteen minutes, after which give a few doses of *Arsenicum*. If the disease does not yield entirely, give *Carbo vegetabilis* and *Rhus tox*. *Helleborus*, *Ipecacuanha*, and *Mercurius vivus* have proved particularly efficacious in enteritis of sheep, if *Aconite* and *Arsenicum* seemed insufficient. If constipation remains give *Opium* and *Nux vomica;* for retention of urine give *Cantharis;* for diarrhœa *Ipeca-*

cuanha or *Pulsatilla*. If discovered in season, an inflammation of the digestive organs will soon yield to the above remedies; if the liver and spleen should be involved, other remedies may have to be added to the above list, (see Hepatitis and Splenitis.) The cure is facilitated by keeping the animals moderately warm, and giving them tepid drinks in which a little meal is stirred. Of the appropriate remedy (except Aconite,) a dose may be given every hour.

Epilepsy.

Diagnosis.—The animal remains suddenly standing with the legs spread out, staggers, and then falls; or it falls suddenly, kicks, the eyes stare, become distorted or are rolled about in their sockets. The breathing becomes intermittent, moaning; there is froth at the mouth; the lips are spasmodically closed; it grinds its teeth; urine and dung are discharged involuntarily; sensation has disappeared. The attack lasts about five to twenty minutes; the animal rises, desires to eat, and seems to be quite well, until the attacks return.

Causes.—Nervous disease, coming on in paroxysms and depending upon a variety of causes; sometimes the disease is hereditary.

Treatment.—Give first a few doses of *Aconite*, and then *Stramonium*. At every new attack give first *Aconite*, and afterwards *Belladonna*, *Hyoscyamus*, *Absinth*, *Cocculus*, and *Calcarea carbonica*. If these remedies are insufficient to prevent an attack, give *Camphora*, one dose every three days. If the disease seems caused by worms, give *China*. Of the selected remedy, give three drops morning and night.

Eruption on Little Pigs.

Diagnosis.—This is a brown, scurfy, humid, but not itching eruption which breaks out in suckling pigs around the snout, nose, eyes and ears. As the disease increases, the eyes appear inflamed, in consequence of which the sight is impeded, and the little animal becomes very much emaciated.

Causes.—Want of cleanliness; spoiled and heating food of the sow.

Treatment.—One dose of *Dulcamara* daily, for some days; afterwards, if necessary, *Dulcamara* and *Veratrum* in alternation. The sow should have better feed, shorts, and a few doses of *Sulphur.*

Eruptions.

Diagnosis.—Various kinds of eruption on the skin, pustules, scales, vesicles, etc.; they have various names, such as tetters, tumors, ulcers, scabs, prurigo, baldness, rhagades, scald, aphthæ, surfeit, grease, ganglion, lupia, etc. These eruptions arise from psora, a miasm which, according to Hahnemann, slumbers in the body of the animal, and, under the operation of certain external influences, acquires its development upon the skin.

Causes.—Constitutional psora, excited into some definite disease by peculiar causes.

Treatment.—In order to prevent the development of this constitutional miasm, it has been extirpated by means of *Sulphur*, of which a dose should be given at once, and in one week another dose; in the case of young ones, they may have a dose every other day, the mothers taking the same remedy every week. Cleanliness and proper diet are likewise necessary.

Erysipelas, St. Anthony's fire.

Diagnosis.—This disease befals horses and cattle, especially the latter; it is characterised by depression of spirits, loss of appetite, loss of thirst, adhesion of the skin, especially on the back, so that it cracks like parchment when grasped between the fingers; the skin is painful, and other symptoms are sometimes present.

Causes.—Bad management; interruption of the cutaneous exhalations by wet, a cold, draught of air, etc.

Treatment.—A few doses of *Aconite*, to be followed by *Belladonna* and *Phosphorus*. Give *Nux vomica* for loss of appetite, and *Pulsatilla* for loss of thirst. If the milk ceases to flow, give *Chamomilla*. Rub the back frequently and hard with firm wisps of straw, until the back becomes warm, and cover it with blankets or rugs after rubbing. Give a dose every two or three hours.

Erysipelas of sheep.

Diagnosis.—This disease principally attacks sheep in the spring-season. The head swells, becomes hot and red; the whole body becomes warmer; in a few days a reddish-yellow fluid is discharged from the swelling.

Causes.—Exposure to rough spring-weather, causing colds.

Treatment.—A few doses of *Aconite*, *Belladonna* and *Sulphur* remove the affection quite easily; it only befals fine, delicate sheep, never coarse, common animals. Dose as in the preceding paragraph.

Exostosis.

Diagnosis.—Bony excrescences of various sizes, on the free borders and surfaces of bones, especially on the tibia below the knee, generally painless, but marring the beauty of a horse; if too near the knee joint or when involving a tendon, they cause lameness.

Causes.—Injuries, violent exertions of young animals.

Treatment.—Cut off the hair in recent exostosis, rub them twice a day with a smooth bone, and bathe them with *Arnica-lotion;* give *Arnica* internally. In inveterate cases give *Acidum phosph.*, *Arnica*, *China*, *Silicea*, *Calcarea carbonica.*

Excoriations, hidebound.

Diagnosis.—Indurations of the skin frequently take place among cattle that are frequently obliged to walk in the mud. The hairy skin feels hard and adhering like leather, becomes wrinkled or scaly, or moist, and pieces of hard skin and even flesh frequently fall off.

Causes.—Internal taint, bad attendance, want of cleanness.

Treatment.—*Arnica* and *Arsenicum* externally, are generally sufficient to a cure. Give *Acidum sulphuricum* and *Mercurius solubilis* if the skin feels hard and firm like leather. *Acidum sulphuricum*, if the hardened skin is wrinkled, and *Spiritus sulphuratus*, if moist. *Sepia*, if pieces of skin come off, and *Mercurius vivus*, if skin and flesh are detached.

Fever.

Diagnosis.—Chills, shiverings, trembling, coldness of the ears and feet; followed by heat of the ears, feet, skin, with dryness of the latter. The animal drinks a good deal, the breathing is hurried, the animal beats its flanks, eats little; the beats of the pulse and heart are hurried. We have acute and intermittent idiopathic fevers.

Causes.—A morbid condition, generally indicating a reaction on the part of nature against disease.

Treatment.—Fever is generally an accompaniment of some acute disease, the relation of which determines the selection of the remedies.

Fever, Intermittent.

Diagnosis.—This disease sets in with languor, trembling and a chill, the hair standing on end; the tongue is dry, the urine watery and transparent, the breathing labored, the pulse hurried and the appetite gone. In a few hours, heat sets in, which lasts for a short, more or less indefinite period, after which the animal seems again as before, except feeble. The attack returns again in two, three or more days.

Causes.—Rainy weather, especially in the fall; damp and close stables; low marshy grounds in the neighborhood of stagnant waters.

Treatment.—*Arsenicum* and *Bryonia* in alternation, are excellent remedies. *Acidum nitri*, *Ipecacuanha* and *Sabadilla* have likewise proved useful. A little exercise between the paroxysms is sometimes advisable in the commencement of the attack; but the animal must not

be permitted to wander through wet marshes or water, or to be exposed to rain. Such exposure is apt to cause relapses, and renders the disease more obstinate. Of the selected remedy give three drops after every paroxysm.

Fever, Putrid.

Diagnosis.—The animal is weak and sad, the mouth hot and filled with fetid saliva, the eyes are half closed, dim and watery, the breathing is hurried and the breath has a fetid smell, the dung is soft, smells badly, and the urine is viscid and dark-colored. If the disease gets worse, the animal wants to lie down all the time, and finally does not rise again; a diarrhœa having a cadaverous smell, sets in; the legs, head and other parts of the body, become swollen; the pulse is generally small, soft, quick and changeable; the more hurried the pulse, the more dangerous the condition of the animal.

Causes.—Bad, spoiled feed, unhealthy sheds or stables; badly-managed diseases, such as typhoid fevers, inflammation of the chest, etc., may give rise to it.

Treatment.—Give a few doses of *Ipecacuanha*, and afterwards *Arsenicum*, at the commencement of the disease. *Natrum muriaticum*, when the disease is considerably advanced. If the animal improves, give *Thuja Calcarea carbonica* for the ichorous tumors; *China* and *Acidum muriaticum*, if there be great prostration *Sulphur* may complete the treatment. The patient should be kept by himself in a healthy place, and the dung and urine should be frequently removed. The feed should be perfectly wholesome and nourishing. A dose may be given every two hours.

Fever, typhoid.

Diagnosis.—This disease rages principally among cattle and horses. It sets in with indolence, languor and listlessness; loss of appetite; gritting of the teeth; the head is leaning upon the crib; the patients do not heed any one calling to them; close their eyelids half; the ears remain in a pendent and unchanged position; the animals walk as if drunk, and sometimes fall down. The pulse is hurried, scarcely perceptible, and frequently intermittent; the discharges of dung and urine are at first scanty, but on the seventh or ninth day diarrhœa sets in, and the disease terminates in putrid typhus. There are evening exacerbations during this fever, and other symptoms of interest in this disease.

Causes.—Bad air, sultry heat after long rain, inundations; bad keep, unwholesome sheds or stables.

Treatment.—A few doses of *Bryonia* a day are the chief remedy. If constipation is present, give *Opium* and *Nux vomica;* for retention of urine, *Hyoscyamus* and *Arnica*, and for short and troublesome cough, *Rhus toxicodendron*. Give *Aconite* and *Belladonna* in alternation for violent fever, restlessness, and a staring look. *Arsenicum* for watery diarrhœa; *China* and *Sulphur*, if undigested food is passed; *Helleborus niger*, if there is ptyalism. Finally give *Bryonia* until the cure is completed; if putrid typhus sets in, treat it as indicated under putrid fever.

Dose.—three drops every six hours.

Fistulæ.

Diagnosis.—This kind of abscess has a small opening, and its course is either in a straight or sinuous line, with

one or more canals, under the skin, between the muscles, bones, ligaments, membranes, etc. Gradually these parts become attacked by the pus contained in the abscess, which discharges only pus, or, together with it, the secretions which belong to the part affected. According to the parts affected, we distinguish the following kinds of fistulous abscesses: a. *venous fistula*, arising from the cutting of a vein for the operation of blood-letting, which is so common under allœopathic treatment; a round, hard and painful tumor remains behind, with an opening in the centre, from which a thin humor is constantly discharged; b. *fistula in ano*, sometimes caused by the operation of docking near the anus; c. ***fistula of the neck***, where the head and neck are joined together; also behind the ears, and arising from some previously existing painful tumor; d. *fistula of the scrotum*, caused by a badly managed castration; e. ***fistula of the corona***, generally on the inner side of the corona of horses: the frog, and, if the disease lasts for a long time, the whole hoof becomes morbidly altered; the animal is lame, and walks upon its toes; f. ***salivary fistula***, which sometimes occurs in the salivary duct, where it passes round the edge of the posterior jaw; this is a very weakening disease, for during mastication, more than at other times, a considerable quantity of thin clear saliva flows out of the mouth; g. ***fistula of the withers***, where the neck and back unite; this abscess may endanger the life of the animal, because the pus, instead of being discharged, burrows more and more deeply; h. *dental fistula*, at the lower border of the lower jaw; less frequently on the outer surface of the upper jaw, and is seated in the root

of a molar tooth; this fistula is very painful, so that the animal frequently refuses to eat, and grows thin.

Causes.—Fistulæ are frequently the result of some internal disease; but they sometimes arise from various causes, such as a *venous fistula*, by a badly performed venesection; a *fistulo in ano*, by making the incision for docking too near the anus; the *scrotal fistula* by an incomplete removal of the epidydimus in castration; *coronal fistula*, in consequence of a blow or kick upon the corona of the hoof; *salivary fistula*, by injuries of the parotid and submaxillary glands; *fistula of the withers*, by pressure of the saddle or yoke.

Treatment.—*Pulsatilla*, a dose every three days, is the best remedy for all fistulous abscesses. *Belladonna* and *Acidum nitricum* have proved useful for cervical, salivary and dental fistula. If the fistula contain a thin fetid pus, give a few doses of *Mercurius vivus* and *Asafœtida*, between *Pulsatilla*, and, if the pulse is thick and nut-colored, give *Silicea*—If the fistulous canals are deep and arranged in such a manner that the pus cannot be discharged and has to burrow more and more deeply (which may be ascertained by cautiously passing a probe into the abscess,) the abscess has to be opened, otherwise the internal organs might become affected. If the canal runs along under the skin, a canulated probe is passed along the canal and a bistouri is pushed forward along the canula, and the skin cut through from below upwards. If the canal dips downwards, the abscess has to be opened by an incision from above; but if the canal after dipping downwards, returns towards the surface, the probe is pushed downwards to the lowermost point, and then pressed upward against the skin, after which

an incision is made through the skin until the probe is reached. If the fistulæ are filled with ichor, they have to be washed several times a day with tepid water, and a little tarred lint has to be inserted in the opening for the purpose of preventing a premature healing of the ulcer, and keeping off the insects in the summer. This proceeding keeps the wound clean, and it heals so much more safely. In fistula of the withers, the wound must not be renewed by the previous cause (saddle and yoke should always be kept in suitable condition,) and, if a dental fistula does not heal in from four to five weeks, the tooth has to be pulled out. A venous fistula cannot possibly occur under homœopathic treatment; for a homœopathic veterinary surgeon does not bleed, and accomplishes by means of *Aconite* much better that which the allœopath accomplishes by bleeding.

Flat hoof of Horses.

Diagnosis.—A malformation of the hoof in horses. The fore-legs are more liable to this disease than the hind-legs. The hoof broad, the sole flat, the sides of the hoof are low and the frog is large so as to come over the sides; the inner space of the foot is filled up evenly by the sole, whereas, in a properly-shaped foot, the horny walls are most prominent. A flat-hoofed horse is apt to walk lame.

Causes.—Horse-breeders have observed that this malformation is hereditary.

Treatment.—*Sulphur*, *Graphites*, *Squilla*, and *Sepia*, have proved useful in this affection. The shoe has to be adapted to the hoof in this disease. The sides of the hoof must not be shortened at all and the sole should

only be cut very little. The shoe has to be scollopped out a little; it should be somewhat broader than usual, but of the ordinary length; the holes should be on the outside as much as possible, and the nails very small.

DOSE.—Three drops morning and evening

Fleas.

Diagnosis.—In warm seasons dogs are frequently so tormented by this vermin that they have no rest any where, and scratch and gnaw at themselves constantly; this makes them look disgusting, and thin.

Causes.—Want of cleanliness; dogs that are kept in rooms, and particularly poodle-dogs are subject to this disease.

Treatment.—The increase of this vermin is prevented by a clean bed of straw mixed up with calamus leaves, washing the animals with cold water; cutting off the long hair in summer, and a sufficient allowance of wholesome food; the fleas may be entirely extirpated by daily washings with black soap, or with a decoction of tobacco leaves or green walnut shells, to which a little vinegar may be added.

Founder.

Diagnosis.—This is a painful, inflammatory affection of tendons, muscles, ligaments, extremities of bones, especially in the feet, and has various degrees. In the lighter variety, the animal is anxious, slow, the affected feet are warm and sensitive to pressure; the animal likes to remain lying down; when standing it puts one or the other fore leg forward, and rests principally upon the hind feet. The appetite is not bad. In a higher degree, the

animal does not wish to stir; the feet are hot and painful, if only the fore feet are affected, they are put forward, and the weight of the body bears upon the hind feet; but, if all the four feet are affected, the animal is tormented by anguish, trembles, and raises now one foot, now another. Generally it is lying with its legs alternately stretched out and spasmodically contracted; the breathing is labored, moaning. The appetite decreases more and more, and the thirst increases; the dung is rather hard, and the urine is somewhat darker than naturally. Generally fever is present, and some internal organ, bowels, lungs, etc., is likewise inflamed. In the highest degree, which may arise from neglected or mismanaged treatment, the animal is unable to stand or walk, has a good deal of fever, drinks a good deal, eats little or nothing, and moans continually. The eyes are inflamed, the dung, is rather hard. The disease is frequently complicated with inflammation of a thoracic organ. Sometimes effusion takes place behind the horny hoof, which becomes detached in consequence or the horny parts become ichorous, and the hoof deformed.

Causes.—Suppuration of the cutaneous secretions by exposure to a draught of air, riding the horse into cold water, etc. Animals in high keep and insufficiently blanketed, when kept in warm stables, become predisposed to splint to such a degree that the least exposure brings on an attack; in such cases the disease seems to have an arthritic character.

Treatment.—If there is fever and lameness, give *Aconite*, followed by *Sulphur*, and then again *Aconite* If the joints are swollen, and the lameness is increased by

motion, give *Bryonia*, which is a chief remedy. *Arsenicum* is excellent when the disease arises from overfeeding, excessive rest, cold drinking; if the sole is painful, and the limbs are hot and rigid, give *Belladonna*. If the feet are painful, and are raised alternately, give *Rhus toxicodendron* alternately with *Rhododendron*, a good remedy is *Staphysagria*, especially when there is trembling. *Opium* and *Coffea* are useful when the feet are wide apart, and the head is held low. If the dung is hard and scanty, the abdomen puckered up, and the appetite gone, give *Nux vomica*. In chronic splint, give *Sulphur* every three days, until an improvement sets in; then give *Aconite* and *Nux vomica* in alternation, sometimes *Causticum*, or one of the above mentioned remedies. It is well to envelope the feet in rags moistened with Arnica-lotion. If ichor has accumulated in the horny hoof, frog, etc., it has to be let out by making a suitable incision; in bad cases the sole may have to be cut away entirely, and we may give internally, *Arsenicum*, *Arnica*, *Petroleum*, and *Thuja*. The animal ought to have soft litter. In acute cases repeat the dose every six hours, in chronic cases give one dose daily.

Fractures of Bones.

Symptoms.—Beside fractures of horns and haunch-bones, which have already been spoken of, ribs and other bones are likewise liable to fracture. Externally a swelling forms over the broken rib which is exceedingly sensitive to pressure; a fracture of a bone in the legs, is recognised by the fact that the animal is unable

to stand upon the broken limb; the broken part seems to be simply adhering to the other portion of the limb, and the fractured part is somewhat flexible like a joint, whereas it should be perfectly firm and inflexible. If the two parts of the fractured bone are out of the ordinary line, the ends overlap each other, and the extremity of the broken bone can be felt on the outside, or a splinter is sometimes felt by passing the hand over it, and the limb appears shorter. The parts around the fracture, soon become inflamed, painful and swollen.

Causes.—A violent blow or fall upon the ribs, slipping, getting the leg into deep holes, violent blows or kicks upon the legs, may cause fractures.

Treatment.—Fractures of ribs are easily cured by the internal and external use of *Symphytum.* To replace fractured bones in the extremities of cattle and horses, we pass a few bags under the belly of the animal, and by fastening them by means of cords to the ceiling, we draw the animal up into the air. After setting the bones, we wrap linen bands round the limb, fasten a pair of grooved iron splints over it, the one which is behind, being a few inches longer than the foot, so as to enable the limb to rest against it; the bandage is frequently moistened with Symphytum-lotion. At the end of eight days the splints are taken off, in order to ascertain whether the bones are in place, after which the splints are replaced, and the bandage applied as before; this process is continued until the cure is completed. In the case of other animals, it is not necessary to suspend them; oxen and cows, if well fed, may be killed, and their flesh prepared for the table.

Fracture of the hauuch-bone.

Diagnosis.—If one of the hind legs of horses or cattle is suddenly attacked with excessive lameness, and, on examination, it is found that the leg is lower than the other, and a painful and hot swelling develops itself, we infer that a piece of the haunch-bone is broken off.

Causes.—Such a fracture is apt to occur in consequence of the animal knocking against the sharp edge of the stable-door.

Treatment.—It is impossible to replace the broken fragment of bone, but, by giving *Symphytum* internally, and applying it externally, the lameness may be removed, and the animal restored for usefulness.

Fungous growths.

Diagnosis.—They break out on various parts of the body, especially on coarse-bred animals, in consequence of pressure of the saddle, yoke, etc.; such injuries are easily recognised by the sensitiveness which animals manifest in these affected parts; the withers, chest and knees are most liable to these affections. At first the swelling is somewhat rigid, warm and painful, but if the swelling has assumed the character of a fungus, it becomes soft, is not very warm and without much pain.

Causes.—Pressure of the harness, rubbing of the yoke or saddle against the withers, back, chest; lying upon the knee, as cattle are in the habit of doing; blows, contusions, internal psora.

Treatment.—In the incipient stage, *Arnica* externally and internally effects a cure; if fully developed, the tumors, especially when caused by pressure from the har-

ness, require to be treated with *Arsenicum* and *Chamomilla*, the latter especially for fungus of the withers and knee *Phosphorus* is useful, when the fungus looks fiery-red, and *Thuja* helps against funguses caused by the friction of the bit-chain. For indurated funguses use *Conium* and *Ledum*, for inveterate fungus *Iodine*, *Petroleum Sulphur*; for humid fungus *Silicea*, the use of these different remedies may be accompanied by washes with water, in which a little arsenic had been mixed. Remove the causes that might bring on this trouble, which may not be dangerous, but mars the beauty of horses. *Sulphur* may be given to complete the cure.

DOSE.—Three drops twice a day.

Gad-Flies.

Diagnosis.—In the summer-season, on the backs of the strongest cattle, especially when kept at pasture, we discover small, round tumors, frequently in large numbers, caused by the larvæ of gad-flies, which gradually increase and suppurate in spring, when the insects creep out and assume the form of chrysalis. If many such tumors are formed on animals, it grows thin, and the cows lose their milk.

Causes.—The gad-fly (*œstrus bovis*), deposits its eggs in the skin of the animal in the summer-season; from these eggs the larvæ arise.

Treatment.—As long as the tumors are small, the larvæ may be destroyed by pressing upon the tumors; or they may be squeezed out by the opening contained in each tumor. If these tumors are large, the orifice has to be cut larger with a pointed knife, after which the larvæ may be pressed out, and the wound pasted over with

tar, in order to keep off other insects. Nothing further need be done.

Gangrene.

Diagnosis.—If a part be tense, hot, dark-red, very painful, we call this hot gangrene. If, in the case of internal inflammation, a sudden improvement seems to become manifest, or if, in external inflammations, the tenseness and redness cease, and the part becomes black, fetid, motionless and without sensation, we call this cold gangrene.

Causes.—Sequel of inflammation, especially if the arterial tissues around the nerve are inflamed.

Treatment.—To prevent gangrene in inflammation, we have recourse to *Aconite*, *Bryonia* and *Arsenicum*. Frequent doses of *Aconite* and *Bryonia*, in hot gangrene, and *Arsenicum*, *Mercurius vivus* and *Asafœtida*, in cold. In external gangrene poultices of yeast have been found useful. Dose, three drops every two hours.

Glanders.

Diagnosis.—This disease is only peculiar to horses, asses and mules. It is a dangerous and infectious disease, and, if the poison is introduced into wounds, malignant and gangrenous sores are produced both among men and animals. In this disease a matter is discharged from one and sometimes from both nostrils, of a grayish, sometimes greenish color, mixed with yellow streaks and spots, and sometimes with a little blood, and adhering to the borders of the nose like glue. The quantity depends upon the animal having more or less rest on the side of the discharge; under the lower jaw, a painless, round,

and generally firmly adhering glandular swelling of the size of a hen's egg is noticed. If the discharge takes place from both nostrils, the swelling is seen on both sides. The mucous membrane of the nose is pale and discolored, or else very red, and marked with white spots and streaks, and sometimes with black dots. Ulcers of various sizes and shapes form on this membrane; but they are sometimes so far removed from the orifice of the nostrils that they cannot be seen, and their existence can only be found out by examining the ichor which is discharged from the nose, and which will be found to be frequently mixed up with shreds or mucous patches detached from the sores. These three conditions—the ichorous discharge from the nose, the swelling of the laryngeal glands, and more particularly the ulceration of the nasal mucous membrane, constitute the most characteristic signs of glanders, and, though the nasal discharge and the laryngeal swellings may abate somewhat at times, yet they speedily disappear. Glanders have attained to a high degree of development; if the nasal discharge is streaked with blood, if a rattling noise is heard during the breathing, the eyes secrete a thick and viscid pus which glues the lids together in the morning, if a purulent cough sets in, tumors break out on the limbs and abdomen, swellings filled with worms supervene, and a hectic fever develops itself, with gradual emaciation of the animal, in consequence of which the animal finally perishes.

The disease sometimes lasts for years. As long as it remains in its incipient stage, the appetite of the animal continues good, the animal looks fat, cheerful, and the hair has a proper gloss, whereas in nasal gleet there is

always a fever present, the appetite is lost, and the animal is dispirited and the coat looks unthrifty. In glanders the laryngeal tumours can never be brought to a head; if they suppurate, we may be sure that it is not glanders, but malignant nasal gleet. Glanders and farcy are so nearly allied to each other, and the two diseases seem to run into or develop each other so constantly, that a description of farcy may not be out of place here. Farcy consists in the breaking out of tubercles in various parts of the body, at first on the inner surface of the hind-legs, so that, by rubbing the hand over this part, down to the hock, a number of small moveable swellings of the size of peas are perceived, which seem to cause the horse some pain. Similar or larger swellings are noticed on the lips, neck, under the manes, on the ribs, and in the flanks; they seem like pearls threaded on a string. The tubercles gradually increase in size, and become softer and more painful; at a later period the hind-legs become paralysed, the horse loses his appetite, the tumours break and discharge a fetid ichor; an hectic fever supervenes, swellings in the larynx develope themselves, a discharge takes place from one or both nostrils, all the signs of glanders become more and more manifest, the two diseases coalesce and the animal perishes with all the signs of either fully developed.

Causes.—The same causes develope both glanders and farcy; want of food with excessive work; spoiled feed which had been put into the barn when wet; taking cold after being overheated; want of cleanliness of the skin; suppression of the cutaneous exhalations in horses that have long been affected with nasal gleet, suppurating sores, abscesses of the withers, mange, malandres; the

disease may be caused by any thing that has a permanently debilitating influence upon the body. Coarse bred and weakly horses are most liable to the disease. Contact with an affected horse is the most common cause of the disease; hence it may be communicated by any thing that has been used by such a horse, saddle, harness, blankets, etc. It may even be communicated by the axle or the box to which such infected animals had been attached, or by a person who had to take care of a diseased horse and was not sufficiently guarded in handling the sound horse after coming from the sick one.

Treatment.—First of all it is necessary to separate the diseased or merely suspected animal from all sound horses, and to have it taken care of by some person exclusively. The things used for this horse, should never be used for any other. In the incipient stage of glanders, *Arsenicum* and *Hippozæninum* in alternate doses, one every other day, may prove curative. If farcy should prevail, take some pus from one of the tubercles, dynamise it, and use it alternately with *Arsenicum*, though the abovementioned treatment may likewise prove useful in this disease. If the tubercles or *buds* secrete a thin, badly looking pus, *Asafœtida* and *Arsenicum* may be given in alternation, six drops every four hours. Even though an improvement should set in under this treatment, the rattling cough sometimes continues, and a yellow scurf shows itself in the manes; these remnants of the disease yield to *Vinca minor* and *Sulphur*. To cure farcy, all the tumors have to be cut open and burnt out, whether they are indurated or contain ichor. The opening should be effected as early as

possible, with a lancet, after which a red-hot iron should be inserted until it reaches the sound flesh; this will be sufficient to destroy the whole swelling. Tumors that break spontaneously, have to be burnt out in a similar manner. On the second day after the burning, the scurf is removed with tepid water, and a mixture of pulverised charcoal and kitchen-salt is sprinkled on such sores as are surrounded by a hard, inflammatory swelling filled with healthy pus, and having in general a healthier appearance. Pale and discolored ulcers surrounded by shaggy and spongy borders, have to be burnt out a second time, and afterwards to be sprinkled again with charcoal and salt; if necessary, this process should be repeated a third time, until the pus has assumed a healthy form. We have to ascertain every day, whether new tumors have come out that require burning and sprinkling with charcoal and salt. If they are located on the hind legs, under the tendons, the operation has to be performed with great care. It is of great use, to wash the sick horse once a day all over in summer with cold and in winter with tepid water, and afterwards to cover it with blankets. The stable should be properly ventilated and kept clean, the animal should have fresh litter as often as required, and there should be an abundance of healthy grain and herbage, and daily exercise in the open air. To prevent further infection, the crib, box, axle-tree that have been in contact with the diseased animal, should be washed several times a day with hot lye, the stable should be ventilated for a time and afterwards whitewashed. The harness should likewise be inserted for several days into lye, washed with soap and water, and then greased

with oil. The metallic parts, the stirrups, bits, chains, knobs, etc., should be well heated in the fire, and afterwards allowed to cool in the open air. The blankets should be burnt, and the saddle should have a new covering. On a journey, take care to have the crib well washed, use clean pails for the horse's drink, and procure clean litter. If mucus seems to be adhering to the crib, do not use it for your horse. If a sore has come in contact with the poison of glanders or farcy, wash the infected part well with soap and water, and expose it to as great a heat as you can bear. If bad symptoms should nevertheless appear, take *Lachesis*, three doses a day, and if this should not help, *Acidum phosphoricum*, and if this prove insufficient, *Arsenicum*, then *Sulphur*, and in few weeks, if necessary, *Calcarea carbonica*. In the case of old and emaciated horses, when the breath has already become fetid, and the nasal discharge ichorous, it is best to kill the animal.

Gleet, nasal

Diagnosis.—A disease of horses; a whitish and viscid discharge from the nose, with swelling of the laryngeal glands. If the discharge yields to proper treatment within nine days, we call it *simple gleet*. This is not so much a disease, as a purifying condition setting in after a cold, and established by nature as a natural preventive against some more serious difficulty. If this simple gleet is not properly attended to, and the horse is exposed to fresh colds, the disease is very apt to assume an inflammatory character, and is called *inflammatory gleet*. The animal is off his food; the ears are alternately warm and cold; the dung is scanty, and in

hard balls; eyes inflamed and running; dullness of the head, which hangs low; the coat looks unthrifty and pen-feathered; chills, with labored and hurried breathing. The laryngeal swellings increase in size, the nasal mucous membrane looks red, and there is a loose or tight cough, from which we infer that the lungs are more or less involved. If these symptoms are not attended to, and the disease is permitted, in consequence of renewed exposure, to invade the general constitution, the salivary and parotid glands become inflamed and swollen; the legs, abdomen and udder likewise swell, and a variety of affections may develope themselves out of these beginnings, such as, farcy, ulcerated tumors, catarrhal ophthalmia, inflammation of internal organs, stomach-staggers, and finally, glanders, malandres, pulmonary diseases, putrid fevers, etc. Malignant gleet is easily recognized by the following symptoms; considerable swelling of the laryngeal glands, which is frequently accompanied by swelling of the parotids; difficult deglutition and rattling, hot mouth and dribbling saliva; the head is hanging low, dullness of the eyes; redness of the faucial mucous membrane, dilatation of the nostrils when drawing breath; striking the flanks repeatedly; ears alternately cold and warm; fever; discharge of dung in hard balls; brown urine at a late period of the inflammation. The swallowing becomes more and more difficult, although the horse is not entirely off his feed.

Malignant gleet is very closely related to glanders, and frequently runs into this disease. In such a case, the fever seems to abate, the horse shows more appetite, seems more lively; the laryngeal glands continue swollen and

adhere to the lower jaw here and there. From both nostrils, and, in worse cases, from one of them only, there is a discharge of greenish mucus, which is mixed with yellowish spots, without smell, and adhering to the outer border of the nose. The cough is less, or has ceased entirely. On the mucous membrane of the nose small whitish vesicles are formed. If the feet, abdomen, udder, etc., swell, we term the disease *wandering gleet*. If all these symptoms disappear, and the horse shows a desire to eat, and seems lively and strong, and the local disease of the nostrils continues, the disease changes to glanders. If the local discharge ceases, recovery may be expected, even though the other symptoms should still continue more or less.

Causes.—Simple gleet is not contagious. It is caused by a suppression of the cutaneous secretions, when overheated horses are exposed to draughts of air, or drink cold water, or are bathed in cold water prematurely. It takes place very frequently in cold and damp weather, mostly in spring and fall, or when horses are transported from one region of country to another, and become overheated on the journey. This is the reason why horses that come to us from distant regions are so frequently attacked with gleet, and perish in such considerable numbers, especially foals. In a more advanced stage of the disease, gleet becomes contagious; whence it is necessary to separate gleety horses from the sound ones.

Treatment.—Simple gleet, if treated with care, is easily cured in from eight to ten days. Rub the horse powerfully with wisps of straw, feed him on soft food, drinks of meal and bran, and give him a dose of *Dulcamara*. For inflammatory gleet give *Aconite* and *Arsenicum* the

first day—a few doses of each; after which the nose will begin to discharge, provided it did not do so before; a dose of *Dulcamara* daily will afterwards complete the cure. Give *Belladonna* if the head should seem affected. Rubbing with wisps of straw, and keeping the horse moderately warm, seem indispensable; the cutaneous exhalation should not be interrupted by anything. If the gleet should become suppressed, constitutional derangements will develope themselves, which have to be treated each according to its nature. If the throat should be much affected, it has to be wrapped in woollen rugs, or in a good lamb-fleece, which should always be on hand for such purposes. The cutaneous exhalations should be carefully preserved. *Chamomilla*, *Aurum* and *Argentum* help to scatter the glandular tumors. *Bryonia* for painful, hot and tense swellings. *Belladonna*, *Hepar sulphuris*, *Baryta*, for tumors of large extent; these remedies bring them to a head. *Sulphur* to complete the cure. In poor and emaciated horses all these symptoms, if neglected, will sometimes, especially if the disease has run from four to six weeks, assume a malignant character. In such a case, *Belladonna*, *Hepar sulphuris* and *Baryta* will bring hard laryngeal swellings to a head. *Arsenicum*, *Acidum phosphoricum* and *Sulphur* are the chief remedies for corrosion and ulceration of the nasal mucous membrane, and for discharges from the nose. If tumors remain behind, *China*, *Arsenicum* and *Sulphur* should be given in alternation. Good and sufficient feed, proper attendance, cleanliness, good stables, are indispensable to a cure; by means of frequent washing and rubbing, the cutaneous exhalation is kept up, and even restored; this is of great importance, for a suppression

of this exhalation is the original cause of the disease. The use of patent powders in this disease is unnecessary; their usefulness is altogether over-rated by the owners of horses; moreover, when resorting to homœopathic treatment, all such compounds are inadmissible, as interfering with the operation of the homœopathic drug.

Dose.—Where the dose is not indicated, give six drops morning and evening, and, in chronic cases, only in the morning.

Goitre.

Diagnosis.—This is an inflammatory swelling affecting cattle on the left side of the larynx. The breathing is rattling, the head is stretched forward, there is a painful cough, hoarseness, the process of deglutition is not much impeded. (See Quinsy.)

Causes.—Cold drinking when overheated, exposure to draughts of air, driving against the wind.

Treatment.—In the beginning give a few doses of *Aconite* in alternation with *Drosera*, one dose a day. If a painless swelling, cough and hoarseness remain behind, give *Hepar sulphuris* alternately with *Drosera* in daily doses. Give water mixed with meal.

Hæmaturia, bloody urine.

Diagnosis.—Urine mixed with blood; fever, pain in the loins; dryness and heat of the inner mouth; sometimes the bowels are costive, or the excrements are mixed with blood. The longer the trouble lasts, the redder does the urine become; the affection may turn into inflammation of the kidneys and bladder, and terminate fatally. Affections of the bladder and kidneys are some-

times accompanied by discharges of bloody urine, in which case the remedies recommended for such affections have to be used.

Causes.—Eating injurious plants, or herbs, such as colchicum, cantharides, pine foliage, ranunculus, etc. The disease is also caused by injuries and inflammation of the urinary organs.

Treatment.—*Aconite* is given on account of the inflammatory symptoms. *Ipecacuanha* is useful in most cases, especially when the disease is epidemic; *Cantharis*, when caused by insects; *Uva ursi*, for frequent emissions of blood; *Veratrum*, for constipation; *Mercurius vivus*, when hard dung is expelled, mixed with thick coagulated blood; *Arnica*, in case of injury, also externally; *Phosphorus* and *Sulphur* have been found useful in cases of obstinate hæmaturia. In acute cases give six drops of the appropriate remedy every four hours.

Hæmorrhage.

Diagnosis—Hæmorrhage caused by the rupture of a blood-vessel, may endanger the life of the animal. If the blood flows from a wounded artery, it spirts out in a stream at every throb of the heart, describing an arc; if flowing from a vein, the stream is continuous, and the blood is thicker and coagulates more readily. Blood may also flow from the nose or mouth, in consequence of some internal injury.

Causes.—Lacerations by adhering to pointed bodies; contusions, bruises, wheels passing over the body, etc.

Treatment.—If no large artery has been wounded, the wound may be filled with flax or cobweb which has been steeped in Arnica-lotion, and then a bandage is to be

applied; if this is impossible, pressure has to be made with the hand. If an artery has been wounded, both ends have to be taken up and tied. Arnica-lotion will soon effect a cure. *China* removes the weakness remaining after a violent hæmorrhage. *Arnica* should be given in cases of internal injury.

Hardness of Hearing.

Diagnosis.—Dogs sometimes become so deaf, that they do not hear the shrillest sound, and become unfit for any useful labor.

Causes.—Cold; excess of cerumen, old age.

Treatment.—Soften the wax with tepid milk, and then remove it by means of a little stick with a little flax wrapped round at one end; internally give *Belladonna*, or *Acidum nitri*, one dose daily. If caused by old age, the disease is incurable.

Hepatitis, Inflammation of the Liver.

Diagnosis.—Cattle and sheep are principally subject to this disease; horses, swine and dogs, less. The disease is either acute or chronic. In acute hepatitis there is acute fever, quick and hard pulse, alternately cold and warm ears, restlessness, oppressed breathing, thirst, loss of appetite, and sometimes a dry cough. The animal seldom lies down, and always on the left side, looks frequently at the right side, moves the right front leg cautiously forward, and, if the right side is pressed upon, the animal shows signs of pain. The dung is scanty, hard, sometimes thin as in diarrhœa, and the urine is thin and brown. In the progress of the disease, the eye, mucous membrane of the mouth and nose, tongue, the

denuded parts of the skin, urine and milk, assume a yellowish color, and the disease terminates critically within eight days or a fortnight. In chronic hepatitis there is little or no fever, but the yellow color is more marked, and the disease may last a number of months.

Causes.—Heating, unwholesome feed, or too much corn, distillery-swills, remnants of spiced food from the tables of employers.

Treatment.—In both forms give first a few doses of *Aconite*, followed by *Digitalis*, after giving a few doses, the acute symptoms disappear. Afterwards give *Nux vomica*, alternately with *Mercurius vivus*. Six doses daily of each remedy; in chronic hepatitis, *Magnesia muriatica*, and *Lycopodium*, are excellent remedies. If the skin becomes yellow, give *Chamomilla* and *Mercurius vivus*, alternately; if hard dung is passed, give *Nux vomica* and *Bryonia*, and if diarrhœa sets in, *Pulsatilla*. Among cattle and sheep, hepatitis genenerally runs a chronic course; and among the other kinds of domestic animals, an acute course; if mismanaged, the chronic form is apt to terminate in abscess of the liver, ulceration of the liver, adhesions of the liver, and various other organic affections, also dropsy. In chronic cases give six drops of the appropriate remedy every morning.

Hernia, rupture.

Diagnosis.—Hernia generally sets in all of a sudden; the swelling has a doughy feel, is painless, has the same temperature as the skin, yields to the pressure of the finger and can be replaced into the abdomen, but protrudes again after the pressure is removed. This distinguishes it from other swellings. If the tumour is so

constricted that it cannot be replaced, the hernia is termed *incarcerated* or *strangulated;* the passage of the dung and of flatulence is arrested, and an inflammation sets in which almost always terminates in gangrene and death. According to the locality, the rupture is termed *abdominal*, *umbilical*, *inguinal* and *scrotal hernia.* If the hernia should be considerable, it is best to kill the animal, inasmuch as it may be eaten without any prejudice and all further complications are thus avoided.

Causes.—If the bowels and the omentum protrude in consequence of a violent effort or concussion, and form a tumor under the skin, this is termed hernia.

Treatment.—Grasp the hernia with the hand, and press it gently upward until it is replaced in the abdominal cavity. If this cannot be done while the animal is standing, we have to wait until it lies down, after which it may be turned with the belly upwards, and the protruded bowel may easily be replaced. This being done, a girth is then buckled round the horse's belly, having a pad attached to it of the size of the tumor and covering it exactly. This is allowed to remain for about six weeks. In umbilical hernia the animal is first placed upon the back, and the bowels having been pressed back into the abdominal cavity, the hernial sack is firmly tied together close to the abdomen, until, after a certain lapse of time, the skin becomes dead and drops off.

Herpes

Diagnosis.—In horses this eruption generally occurs in a dry form, mealy, arising from very small pustules, which cause an itching and spread from a certain point all around in a circle. If the pustules are scratched

open, an acrid humor is discharged, and, after drying up or scaling off, the skin looks rough and mealy. If the eruption breaks out at the dock, the hair-roots may become destroyed, and the tail may get entirely lost, leaving nothing but the so-called rat's tail.

Causes.—Herpes generally arise from constitutional psora, and is an hereditary disease.

Treatment.—*Rhus toxicodendron*, *Spiritus sulphuratus* and *Alumina*, in the commencement of the disease, and *Sepia*, *Phosphorus*, *Dulcamara* and *Sulphur*, when the herpes commences to scale off. If the herpes looks humid and breaks out at the dock, give a dose of *Graphites* every four days, after which give *Mercurius vivus*, and lastly *Sulphur*. In dry as well as humid herpes, *Sulphur* may be continued a little longer after the eruption seems healed. During the cure the herpes should be frequently washed with cold water. Give one dose of the selected remedy every morning.

HIDE-BOUND.—*See Excoriations.*

Hydrophobia.

Diagnosis.—Dogs are particularly subject to this disease. Through a bite it may be transmitted to other dogs and domestic animals, and even to man. If a dog is mad, it becomes sluggish, surly, wants to bite, and growls when spoken to; it is averse to food and principally to water and to everything that shines like water; it is unable to bark, and utters a sort of howl, during which the head is held high. The eyes become turbid, filled with tears, it bites and snaps at everything

in its way, even at its master, whom it still knows and obeys at the commencement of the disease. At this period the dog wants to run away, it snaps and bites at everything. It rolls on the ground, rises again very feeble, is attacked with convulsions and falls down dead. The disease lasts from five to eight days, and sometimes less. We distinguish two varieties of the disease, acute and silent hydrophobia. In the former variety the dog's tail is raised as is the fashion with dogs that are of violent temper; only when the disease is very far advanced, the tail begins to hang down. The animal does not froth much, the dog is raving and snaps at everything in its way. In the second variety the animal carries its head low, the tail between the hind legs, the tongue is constantly hanging out, the eyes are red and protruded. The disease after a bite, may not break out until weeks or years have elapsed. The animal stops eating, becomes anxious and restless, and has slight chills. The voice is hoarse, look staring and fierce, the eyes red and a discharge of mucus takes place from the mouth. Some dogs are violent and fierce during their madness, others more quiet and almost stupefied. Most mad animals show a disposition to bite. Gradually convulsions supervene, the animal becomes more and more debilitated, and finally perishes.

Causes.—Horses, cattle, sheep, and swine are liable to be infected with the disease by the bite of a mad dog, or by becoming inoculated with the poison on some sore or abraded surface. In dogs and cats, and in some wild animals, the disease may originate without infection, by exposure to intense cold or heat, sudden transition from excessive heat to cold, want of suitable drinking water

in hot weather, want of sexual gratifications, excessive nursing.

Treatment.—In the last stage the treatment of this disease is very dangerous and the result exceedingly doubtful. It is of the utmost importance to prevent the outbreak of the disease, if possible. As soon as the bite has been inflicted, cut off the hair all around the wound, and expose it to heat as nearly as the animal can bear. A hot iron should be held near the wound, and, as soon as it cools, another iron should be substituted in its place. The heat should only act upon the wound, not upon the surrounding parts. For this purpose it is well to grease the parts with oil and to renew it as often as they become dry. Wipe off every thing that is discharged from the wound. Repeat this proceeding three times a day, until the wound is healed. In the meanwhile apply to the wound compresses moistened with water and Belladonna-tincture. Give *Belladonna* internally, several doses daily, for four or five weeks, and lastly a few doses of *Stramonium*. Instead of Belladonna *Hydrophobine* may be given internally, a dose every other day, for one fortnight. If a mad dog has got among a flock, it is difficult to find out the bitten animals. Drive all the sheep and swine into the water, and horses and cattle should be washed all over; afterwards examine carefully, whether a wound can be discovered any where on the animals, in which case treat it as stated above. By way of precaution, *Belladonna* may be given to all the animals. If a single animal has been bitten, it should at once be separated from others, and approached with great care during the treatment. If the disease has actually broken out, it is best to kill the animal and

to bury the carcass deep in the ground, covering it well with lime. The litter upon which the animal has stood or lain, should be burnt, and the box white-washed all over.

Hydrothorax Epizootic.

Diagnosis.—Only horned cattle are subject to this disease. The name originates with Dr. Lux, of Leipsic, in his Zooiasis, Vol. I., No. 2, p. 1–23. According to this experienced observer, we distinguish four stages, as follows:

First stage.—Respiration embarrassed, short, a sort of cough which increases by morning. In the state of rest, an ox in good health respires without much moving of the ribs or flanks, and the number of respirations in a healthy large cow, at rest, is from sixteen to eighteen per minute. Peculiar distress in lying down, and great constraint when the animal has lain down. If the animal lies better on one side than on the other, it is a proof that the dropsy exists on one side only; it occupies both sides when the animal cannot lie on either side. Cows, in a state of good health, readily stretch themselves on the side, after having lowered the anterior of the body; those affected with hydrothorax rarely lie down; only when they are very much fatigued they place the hind-quarters on the ground, and seldom place themselves on the side, amost always on the inferior surface of the chest and belly; oftentimes they only bend the knees, and immediately stand up.

In oxen the movements of the heart are but lightly felt. They are not perceptible in the animal when healthy, nor when it is attacked with inflammation. Hence they are imperceptible, but cease to be so on the

slightest motion. The pulse is irregular; it is less quick than in healthy cows.

The parts surrounding the eyes, nose, mouth, gums, tongue, etc., are pale and puffed; the eyes are sunk in the orbit, dull and moist; the inside of the nose is covered with a viscous fluid, or the mouth is bathed in a thick saliva; the white of the eye is not inflamed; the incisors are loose.

Oxen in good health ruminate immediately after having eaten, and they almost invariably do so lying down; such as are affected with hydrothorax ruminate in the erect posture, or stand up when they have lain down on commencing this act, in which, however, they indulge more rarely.

The head is not pendent; the secretion of milk diminishes in cows that give milk; the animal becomes sad and slow in its gait. These disturbances are remarked for some weeks.

Second stage.—Short, harsh cough; the breathing becomes more rapid and shorter, with heavings of the flanks. When the lung has become indurated, cough is joined to the asthma. If the pulsations of the heart are still perceptible on the right side, and if, at the same time, the substance of a large, hard body be felt on the left side, the left lung is indurated. The pulse is soft and undulating, neither frequent nor full. No milk; much mucous in the mouth.

Third stage.—The cough becomes stronger, the breathing very much embarrassed and stertorous, the breath fetid. The animal has no appetite; it wastes away from day to day; its air is very melancholy.

Fourth stage.—No more appetite nor rumination; the

pulse becomes smaller, harder; there is a discharge from the nose of a reddish or brown and fetid ichor; the animal resembles a skeleton; death by suffocation. On opening the dead body, we find a large quantity of serum in the chest, and the lungs are either natural or else enormously distended and hard, in which case there is no vestige of water; or else one or both lungs are hard, and there is no water.

Causes.—According to Lux, cattle in marshy grounds, or on rich pastures, are most liable to this disease. The epidemic likewise breaks out in wet spring and fall-seasons when considerable inundations take place; in many districts the disease is endemic, against which nothing, not even the best feed and keep can protect the animal; cattle that are kept in warm winter-stables, and have many warm drinks, warm greens, distillery-swill, rich and succulent plants, are very liable to this disease. In dry and high districts, where the cattle have cold drinks, summer and winter, this malignant disease scarcely ever occurs.

Treatment.—Lux uses nothing but potash for the treatment of this disease. A large animal requires about half a pound to a whole pound, giving half an ounce in water or in an infusion of linseed morning and evening; calves of six months old have only half an ounce a day; beyond this age a whole ounce is required. Less than this at a dose is insufficient. An ounce of dry potash is about a tablespoon levelled twice full. The potash has to be kept in a well covered vessel, in some dry and warm place. The improvement soon commences, the breathing becomes less painful, the cough diminishes, rumination and appetite return. The animal lies down

every now and then, the milk re-commences to flow, and the recovery is completed in about a fortnight. This course of treatment, according to numerous experience, is the best, both at the beginning and in the worst stages of the disease. It is strictly homœopathic treatment. It matters not whether the dose is larger than a homœopathic dose generally is; a smaller dose, or perhaps some other remedy, such as *Carbo veg.*, may perhaps be sufficient to a cure; but the results of this treatment with massive doses of potash are so satisfactory that no smaller doses have ever been attempted. The homœopathicity of a drug does not depend upon the size of the dose, but upon the capability of the drug to produce symptoms in the healthy organiser which are similar to the phenomena of the disease. And it is a well-known fact that the excessive use of potash causes dropsy of the chest, as may be inferred from the many cases of hydrothorax occurring among persons who are strongly addicted to the use of the so-called white ale, which contains a good deal of potash, in order to make it froth better. As a prophylactic every cow may be given twice a week, a handful of wood lye in her drink, in districts where there is danger of the disease breaking out; the cattle should not be kept too warm, or fed on warm feed; the morning feed should always be sufficiently cooled. If, during a wet spring or fall, an animal commences to cough in spite of these precautions; if it lies down less than usual, the milk is secreted in less quantity, and a suspicious cough sets in, hydrothorax may be supposed to be imminent. In a common catarrhal cough the secretions of milk do not cease, the animals lie down and ruminate as usual.

Haycock has described this disease under the name of "Typhoid Pleuro-Pneumonia;" we annex his interesting description of this epidemic, and the treatment which he recommends.

Typhoid Pleuro-Pneumonia.

Typhoid Pleuro-Pneumonia is another form of malady which prevails more or less during the existence of epidemic catarrh; it may, in fact, be considered, and justly, as one of the modes in which epidemic catarrh is very prone to terminate. Its appearance is greatly to be dreaded, particularly where a number of horses are kept in an improperly ventilated stable, or if the treatment has been of that nature which would lower the vital tone of the organism, such as bleeding, purging, or otherwise depleting the system. It is a disease of a very insidious and of a very dangerous character; it frequently undermines, as it were, the whole animal fabric, before an ordinary observer would suspect that anything particular was the matter. Auscultation is of great value in this disease, as a mode of determining its existence at the commencement, and the physical signs which mark its approach should by no means be allowed to pass unheeded.

Symptoms.—The animal is affected with epidemic catarrh, which affection may have been present for three or five days, or even more; and to the surprise of the attendant and those having the care of the animal, no improvement is visible; in spite of everything which may have been done to afford relief, the patient coughs, and there is a something in the very sound of the cough

which tells an experienced ear the whole history of the change which has already commenced within the chest: it is a cough very soft in its nature, it comes languidly, it is constrained, and hangs, as it were, in the throat; the animal, in fact, is afraid to cough, from the acute pain which is experienced during the act. The countenance is dejected, and the eyes present a dull, inanimate aspect, and the head is held low; the limbs may be hot, or only of a moderate warmth, or some of them may be warm and others cold; in other cases, if the hand is laid upon one of the limbs a moderate degree of warmth is felt at first, but if the hand is retained for a short time a coldness becomes perceptible, which rises, as it were, from the deeper seated structures of the limb; the membrane lining the nostrils will present a leaden-like hue, or a dirty, dull bluish colour; the glands at the throat may be a little swollen, and the throat itself sore; the pulse runs about seventy, or from that to seventy-six per minute; it is feeble and easily compressed, or it may appear full and yet be easily compressed, and perhaps it may have presented these characters for the last four or five days—characters which denote a bad state of the system when they are present for so long a period without undergoing a change for the better; in some cases if the hand be pressed upon the sides of the chest, the skin in immediate contact with it will exhibit a tremulous motion; the hair generally over the surface of the body will appear dry and penfeathered; the mouth will be offensive; the appetite totally gone, or nearly so; the dung will be dry, and in little lumps like wax balls, and the urine scanty and high in color, and emitting a powerful odour;

the respirations will probably be from fifteen to twenty per minute, and very superficial, and if the thumb be suddenly forced between the ribs of the chest, the animal emits a low suppressed grunt, which is succeeded by a short fit of coughing. If the ear be applied to the course of the windpipe, a faint mucous râle is detected, which in some cases is louder than in others, while in the chest the respiratory murmur is strangely suppressed; it may be heard, but very faintly, or it may be totally absent on one side, or nearly so, and but partially present on the other.

Causes.—This form of *typhoid pleuro-pneumonia* never prevails save during the prevalence of epidemic catarrh, it is the most malignant and the most fatal in confined, closely-crowded, and ill-ventilated stables; in such stables, this disease generally proves a dreadful scourge. It is, as I have previously observed, very deceptive at the commencement; it begins so insidiously, and progresses so quietly. The ultimate causes of the malady are very obscure. It may be, that the symptoms observed in epidemic catarrh are the effect of some noxious atmospheric agent being imbibed, during the respiratory act, into the blood, whereby this fluid becomes contaminated, which contamination being once established, and from the associative action of other causes, such as bad ventilation, over crowding in the stable, etc., aided by predisposition in the animal itself, induced either from the long-continued a tion of a variety of influences which depress the vital force, or from want of natural vigor, or a combination of the two, that typhoid pleuro pneumonia results. Such, probably, is a true explanation of the cause of this and similar affections; but whether

it be, or not, the fact of its being the most prevalent and the most fatal, from over-crowding and bad ventilation, is sufficient to impress upon us the necessity of *good ventilation*, and of not crowding too many horses together during the prevalence of such diseases in particular.

Complications.—It is seldom that we observe this affection confining its ravages to the organs of the chest alone. In all cases, as I have before observed, it is associated with epidemic catarrh. I have also frequently found it associated with asthenic inflammatory disease of the serous and mucous membranes generally; indeed, it is difficult to suppose that it could be otherwise than so associated, when it has assumed, or is about to assume, its more malignant states; for, prior to such states being manifest, and at the time of their manifestation, the blood, of necessity, will be loaded with impurities and poisonous materials; and in passing over the system in its circulatory process, the whole of the system will, more or less, imbide such poisonous influences; and those structures which require the most blood to properly and efficiently continue their healthy function, (and which in themselves are the most vascular,) will, as a matter of course, speedily become participators in the morbid change going on within. Thus we frequently find in this disease, that the patient will exhibit symptoms of abdominal disease of a very low and subacute character; he will occasionally regard his side anxiously; sometimes he will paw the ground; and sometimes he will lay down, and when down, (which is never long,) he again looks to his side—he is seldom or never violent, however—on other occasions he is affected with purging, either of matters of a blackish color, or the

faces are mixed with black semifluid blood, from which is emitted a most intolerable stench.

Prognosis.—We must be guided in our prognosis by the nature of the attack—upon the character of the pulse and respiration—upon the appetite and the rest which is enjoyed—upon the debility and the cough. If the attack be mild—if the pulse subside or fall in the number of its beats, accompanied with a corresponding decrease of the respiratory acts—if the appetite return and the animal begin to lay down—if the debility disappear, and finally, if the cough become more loose and the animal emits it freely and without dread, then may we hope for the best, and prognosticate accordingly; but if states and conditions supervene of a reverse nature to the above—if the pulse continue high, the breathing quick, the cough low and suppressed—if symptoms of abdominal disease set in; and particularly if there should be discharged from the nose sanious yeasty-looking matter of a most offensive nature—if the limbs remain cold in spite of every thing to bring warmth within them, then our prognosis must be unfavorable, for it is more than probable that death will speedily destroy the animal.

Appearances after Death.—The appearances presented to us after death are various, and will of course, in a great measure, depend upon the intensity and duration of the disease. In the most severe forms, nearly the whole of the organism will be found more or less gangrenous. The common appearances are—entire disorganization of the lungs, with large deposits of lymph; effusion of water within the chest, in which will be found floating about masses of lymph, portions of lung, and portions of the pleura; the pleura will also be gan-

grenous; it will slough away from the ribs like as much wet paper, leaving exposed a raw surface of a dull dirty red colour; the mucous and serous structures of the abdomen will also be found more or less gangrenous, also the muscular tissues. The great nervous centres will be softened, attended with an effusion of serum within the cavities of the brain, while the nervous substance itself will be greatly softened and of a dirty white color. The structure of the heart will also be found to have lost its natural firmness, and its cavities to contain blood in a semi-fluid state and of a black green color; in fact, scarcely a single structure can be found in a normal state, all appears tainted or affected with gangrene and disorganization.

Treatment.—The best remedy for this disease, in general, are—*Aconite*, *Arsenicum*, *Bryonia*, *Bromine*, *Iodine*, *Phosphorus*, *Camphor*, *and Rhus toxicodendron.*

Arsenicum may be used in five-drop doses of the first and third dilutions. I frequently use the two in alternation. It will perhaps be necessary to repeat the dose every four or five hours; it must be steadily persevered in for two or three days. Phosphorus tincture may also be used in alternation with arsenicum 3; give it in two or three-drop doses.

Bryonia may either be given alone, or in alternation with phosphorus or arsenicum; if the debility be excessive, give it in alternation with arsenicum. Use the first dilution of bryonia, in five-drop doses.

Camphor is a most valuable remedy in most epidemic diseases, and it may be used in ten-drop doses of the strength specified in the Introductory Section; it also may be given in alternation with arsenicum.

Rhus toxicodendron is indicated if the fever becomes worse toward night, or in the evening, especially if any tendency to purging is present, in which case it is, I think, the best if given in alternation with arsenicum. Use the first dilution of rhus, in five-drop doses.

In all cases, the medicines most to be relied upon in this disease, are—Aconite, Arsenicum, Phosphorus, Bryonia, and Camphor."

Hysteria.*

"I have ventured to append the above name to the head of the present article to designate a peculiar affection which I, on three occasions, have had to treat in mares, the like of which I have never been able to read any account of either in our veterinary journals or our best treatise upon horse pathology. The analogy of the affection in question to hysteria, was first suggested to me by my friend and excellent practitioner, Mr. James Moore, V. S., of Manchester, and from what I am enabled to gather respecting the disease hysteria from Dr. Copeland's Medical Dictionary, it appears to me that the affection bears a very close similarity, in its broad or general features, to that disease, and on that account I venture to call it hysteria.

Symptoms.—In all cases of this nature which I have treated, the disease commenced very suddenly: they (the subjects thereof) began to exhibit an unusual degree of restlessness—to perspire profusely, which symptoms or states were speedily succeeded by a disposition to lie down—by great sluggishness, loss of motor power in the hind limbs—violent spasm of the large muscles of the

* From Haycock's Veterinary Manual.

loins and hind quarters (the gluteal muscles were excessively cramped) and the shoulders; the pulse in two of them rose from sixty to eighty beats per minute, and the respirations were greatly increased; they made severe efforts to rise upon their feet, but from the total loss of all motor power in the hind limbs, they were unable to do so: two out of the three every now and then strained violently, and ejected, *per vaginam*, excessive quantities of coffee-coloured urine, which consisted principally of blood; the perspiration was excessive also. In two cases the more violent symptoms subsided for a time; they became cool in the skin, and partook of food and water, but were totally unable to rise; this improvement, however, did not prove of any long duration; they commenced struggling again with renewed violence with the fore limbs, and continued to do so until they died. Both the cases to which I allude were treated according to the orthodox mode; they were bled, had gentle aperients, antispasmodics, and powerful sedatives, but without avail. The third case occured not long ago; it was treated homœopathically, and recovered. As the disease is of so rare a character, and as the treatment was new, I will detail the case, and enable the professional reader to judge for himself as to its nature and general character.

Case. *October 27th*, 1851.—I was requested about nine o'clock, A. M., to attend upon a mare, the property of Messrs. J. W. and H. Shaw, woollen manufacturers and merchants, of this town.

History, etc.—The mare in question has been the property of the above named firm about three months, during which period she has been a very healthy animal;

she is about half-bred, stands fifteen hands three inches high, is rising five years of age, of a bright bay color, and is used for teaming purposes. The mare has stood at rest in the stable from Saturday morning until this morning, when she was taken to her usual labour, that of leading coals from a pit situated about one mile and a half from where she is kept. In travelling to the pit she was observed by the driver to be more lively than usual and keener of labour, but when near the pit she began to stagger and move about in a very peculiar manner; the driver, however, went forwards and loaded his cart with coal, and when near home, in returning, he experienced great difficulty in getting her along. He arrived at the stable about a quarter to nine o'clock, and I was immediately sent for.

Present state.—1. Pulse seventy, and full.

2. Respirations fifteen per minute.

3. Large patches of perspiration are present upon various parts of the skin, upon the sides of the neck, the head, the trunk, and the hind extremities; the perspiration is hot and profuse. This sweating broke out a little before she arrived at the stable.

4. If I cause the animal to turn or move from one side of the stall to the other, she does so with a peculiar kind of unsteadiness; the limbs refuse to act in obedience to the will, she staggers in her movements, and is swayed slightly from side to side.

5. A trembling kind of motion is present amongst the muscles in the region of the femur, and this peculiar tremor is not observable in any other part of the body.

6. The gluteal muscles of both hind quarters are excessively hard, but more especially those of the left

quarter; they present a degree of hardness which is really surprising, and feel as though I was pressing upon a board.

7. The muscles of the shoulders are also harder than they ought to be, but nothing in comparison to the hardness of the gluteal.

8. The mare is affected with restlessness; she presents a peculiar wild look, stares a good deal, and bites keenly at the wood-work of her stall, a practice to which she is not in the least given.

Treatment.—To have *Belladonna* ten drops of the first dilution in two ounces of water, then to be wisped down, if possible, until she is perfectly dry.

Eleven o'clock (two hours afterwards).—The mare is better. The man could not wisp her dry, but he had covered her with a woollen rug, and she soon afterwards became so; the skin is now completely dry; the wild appearance which I spoke of is better, but the gluteal muscles still retain their rigid hardness. At twelve o'clock the mare to have *Belladonna*, ten drops of the third dilution in two ounces of water, and at five o'clock, P. M., to have *Belladonna*, five drops of the first dilution in two ounces of water.

Seven o'clock, P. M.—Improved in every respect. She moves much better; the gluteal muscles have softened considerably, especially those of the right hind quarter; the muscles of the shoulders have resumed their normal state, or nearly so; she has eat two bran mashes and drunk about two gallons of chilled water; she has also dunged twice, and urinated freely two or three times. At nine o'clock to have a bran mash, containing about one quart of boiled oats, and at ten o'clock to have

Belladonna, ten drops of the third dilution in two ounces of water, and then left for the night, with the understanding that a watchman who is kept upon the premises occasionally looks at her.

28*th*, *nine o'clock*, *A. M.*—This morning I find my patient wonderfully improved in every respect. She has not laid down during the night, but she did so about five o'clock this morning, and lay until near eight o'clock; she can walk as well to all appearance as ever she could; the hardness of the right gluteal muscle is completely gone, while that of the left is nearly so; the shoulders are right. To have *Belladonna*, five drops of the third dilution in two ounces of water; a second dose to be given at noon, and a third at seven o'clock to-night.

29*th*, *nine o'clock* A. M.—This morning I find the mare to have perfectly recovered. She has been once already to the coal-pit, and brought her usual quantity of coals to the mill. *Discharged cured.*

Diagnosis.—The only diseases for which hysteria is likely to be mistaken are—either colic, enteritis, paralysis of the hind limbs, or inflammation of the kidneys; but a little careful attention to the symptoms will prevent such a mistake in all probability from happening. If the pulse be exalted, the respirations hurried—if the gluteal muscles be in a state of spasm—if the animal look wild, and more especially if down and straining considerably, and parting with dark coffee-colored urine—these are all symptoms which, in my opinion, distinctly characterise the affection from those enumerated.

Appearances after death.—I made a *post-mortem* examination of both cases of hysteria which ended fatally, and

in neither of them could I detect the slightest change, either in the nervous centres, in the circulatory organs, or in the digestive organs. The bladder of one contained about half a pint of bloody urine, and the mucous membrane was irregularly spotted with a few small dark-red spots. The muscles, with the exception of the gluteal, in both were perfectly healthy, while upon the gluteal and also upon the aponeuratic fascia investing these muscles was a large layer of pale-colored serum, while the muscular substance itself was greatly softened, and readily admitted of being torn up. The kidneys and the ureters were also perfectly healthy, and the mucous surface of the bladder of the other mare was perfectly white as though bleached.

Remarks.—Amongst a number of forms in which hysteria presents itself in woman, Dr. Copland treats upon what he designates "The Irregular and Anomalous States of Hysteria," and amongst these "anomalous states" he speaks upon "the *paralytic* form" of it. He says, "Hysteria may similate paralytic affections. In such cases there is seldom a fully developed state of hysteria, but merely an occasional manifestation of certain of its symptoms. * * * In most instances of these, as well as of other irregular hysterical affections, the variable character of the temper and the mind, and *the exalted sensibility and irritability of the body are evinced.* The paralytic form of hysteria is *sometimes connected with spasms*, inability to move being attributable rather to this than to loss of power. Occasionally, also, it depends upon a deficient exertion of volition, the patient being capable of moving the limb when excited. This affection may occur in a single limb or in both; it may even

closely imitate paraplegia.* Again he says, "*Pain in the region of the kidneys*, sometimes extending in the course of the ureters, and even to the urinary bladder, is occasionally the principal affection in hysterical patients. This pain is generally severe and sudden in its attack. When it extends to the bladder, dysuria is often present; and this symptom is liable to be referred to inflammation of the kidneys."† From the quotations which I have made, and the description which I have furnished of this disease, together with the case detailed, the reader will, I think, readily discover such a close analogy between them as to admit that I am justified in affixing the name of hysteria to the malady in question. I could strengthen my position materially by adding other quotations of a similar character; but I deem it unnecessary, particularly as I have no further interest in the matter beyond the desire which I possess of ascertaining the real truth.

Causes.—The causes of hysteria, in most cases, will, I think, be difficult to determine. The first case which I treated, the animal had rested about a week, at the end of which time she was put into harness upon a very hot day and driven slowly for a distance of five miles, and was seized on the road. The second case also occurred after the mare had rested a week, or a little more, when she was taken out of the stable upon a very sultry afternoon and galloped severely, and shortly afterwards was seized. The subject of the third case rested from the Saturday morning to the Monday morning, at which time

* The reader will please refer to what is said upon this form of Paralysis. See Paralysis further on.

† Dr. Copland's Medical Dictionary, article Hysteria.

she was put to her usual labor and driven slowly for about a mile, and was seized ere she had got to the end of the journey, short as it was. The subjects of the two former cases were animals nearly thoroughbred, and both of them of very excitable temperament, while the subject of the third case was a remarkably quiet animal, and only about half-bred.

Treatment.—The best remedies in general for hysteria will be found to be *Aconite*, *Belladonna*, *Aurum*, *Calcarea*, *Carbonica*, *Causticum*, *Nux vomica*, *Phosphorus*, *Veratrum*, and *Mercurius*.

The patient if possible must be kept quiet. I think the uneasiness in a great measure arises from the animal feeling herself unable to have the proper use of her limbs; she fights and struggles more from alarm than from pain, although, from the cramped state of the gluteal muscles, the pain, I have no doubt, will be somewhat severe. If, then, the patient be prostrate and unable to rise, and is continually struggling and attempting to rise, I would, by way of experiment, hobble the feet, and if she struggled worse the hobbles could easily be removed, so that, under any circumstances, no injury could arise from securing the limbs.

The medicines which I should probably select would be *Aconite* and *Belladonna*, of the first dilutions. *Nux vomica*, I believe, is a likely medicine; use it of the first dilution, in five or ten-drop doses, repeated every hour or two hours, according to the urgency of the case. Give the Aconite and Belladonna also in ten-drop doses every alternate hour or two hours. *Mercurius* will also be found of great value for the albuminous state of the urine; it is, in fact, the chief remedy.

Indigestion.

Diagnosis.—In all sudden attacks of this kind, the animals become dispirited, carry their heads low, are off their food, yawn, paw the ground, and look frequently at their flanks. The tongue is dry, the mouth full of mucus, the discharges of dung scanty and half digested. At times they are attacked by colic, the breathing is labored; they are troubled with gagging and belching. Chronic indigestion, by which cattle are principally affected, is generally preceded by other troubles, such as diarrhœa, meteorism, colic, etc.; after these we observe loss of appetite, diminished or imperfect rumination, discharge of dry, dark, fetid dung, gradual loss of spirits, cessation of the flow of milk, sickly appearance. The animals lie down a good deal, belch up a fetid wind, are attacked with fetid diarrhœa, the coat looks unthrifty, the eyes run, and the patients grow quite thin. The appetite becomes less and less; the dung is hard, scanty, blackish, and sometimes fetid and thin; the meteorism increases, the animals become quite emaciated and perish. In the case of cattle, the feed is found dried up and hardened in the third stomach.

Causes.—Bad, unwonted, indigestible feed; or when excessive hunger torments the animals and they are all at once allowed to overfeed. Colds and internal taint may occasion the disease.

Treatment.—Give *Nux vomica* two doses daily, if the tongue is dry, the mouth slimy, the dung hard, undigested and scanty, if these symptoms arise from a cold; if *Nux vomica* does not help, give *Dulcamara.* Give *Antimonium crudum* for frequent belching of

wind, slimy mouth, pains in the abdomen, diarrhœa and constipation, loss of appetite. If insufficient, give a few dose of *Bryonia*. Give *Asarum europæum* for loss of appetite, discharges of papescent or undigested dung, streaked with red mucus. *Chamomilla* for diarrhœa with distension of the abdomen; if insufficient, give *Rheum*, or a few doses of *Ipecacuanha* and *Nux vomica*. Another good remedy is *Arsenicum*. For thin, fetid diarrhœa, with distension of the abdomen, rumbling in the bowels and prostration, give *Pulsatilla*, which is also a good remedy in chronic cases, where it may be given in alternation with *Alumina*. At the end of the cure a few doses of *Sulphur* may be given. Good keep, proper and easily digested feed in reasonable quantity are indispensable to a cure. Where the dose is not indicated, give six drops every six hours.

Inflammations.

Diagnosis.—External as well as internal parts may become inflamed. The inflamed part is tense, painful and hot; and, if the inflammation be violent, it is accompanied by fever, with thirst, loss of appetite, quick and bounding pulse, increased temperature, alternate heat and coldness of the ears.

Causes.—Young, full-blooded animals, are more particularly inclined to inflammatory diseases which become developed in consequence of various kinds of exposure.

Treatment.—According as the inflammation is more or less intense, and one or the other organ is affected, different remedies have to be used. Compare: Inflammation of the eyes, chest, bowels, foot, brain, throat, urinary bladder, liver, inner mouth, spleen, kidneys, ears, abdo-

men, etc. *Aconite* is the principal remedy for internal inflammations, every five, ten or fifteen minutes a dose, in violent cases. *Bryonia* for inflammatory tumors which are externally hot and tense. *Arnica* alternately with *Aconite*, when wounds become inflamed.

Inflammation of the Abdominal Viscera.

Diagnosis.—The breathing is anxious, there is fever, restlessness, the animal is off its food, is thirsty, lies down but little, rolls over, rises again, looks frequently at its abdomen, staggers, and shows signs of pain when the abdomen is touched. The back part of the abdomen is distended, and the bowels are constipated. If the disease increases, the temperature of the abdomen increases likewise, ears and feet being cold. Lastly the animal is attacked by cold, viscid sweats, and, unless assistance is speedily at hand, the animal dies of gangrene, or the disease changes to acute ascites, and runs its course in a few days.

Causes.—Sudden cold while overheated, spoiled feed or feed mixed with noxious stuff, blows or kicks upon the bowels, badly managed castration.

Treatment.—A few doses of *Aconite*, one dose every fifteen minutes, generally quiet the animal in a few hours, after which the cure is completed by a few doses of *Arsenicum*. If caused by a cold, give *Aconite* and *Bryonia*, in alternation, and, if this does not help, give *Nux vomica*. If the abdomen remains painful, give *Lachesis;* if this does not help give *Belladonna*. If the constipation continues give *Nux vomica;* for lameness in walking give *Rhus toxicodendron;* for urinary difficulties, *Cantharis*, and for diarrhœa, *Arsenicum*. An injection of

tepid salt water every now and then may be of service. Constant constipation is better than diarrhœa.

Dose.—Of the specific remedy give six drops every six hours.

Inflammation of the Foot.

Diagnosis.—The inflamed parts are hot, painful, swollen and tense, and the animal has an unsteady and cautious gait. These swellings should not be confounded with the cold, painless and soft tumors which retain the impression made in them by the pressure of the finger.

Causes.—This disease may be caused either by internal disease or by some external injury.

Treatment.—*Aconite* and *Rhus toxicodendron* generally afford relief. *Belladonna* if the inflammation is erysipelatous. *Bryonia*, if the swelling is hot and tense. *Pulsatilla*, if the swelling is shining and red. *Ruta*, if the tarsal joint is inflamed. *Arsenicum*, if the sole is hot and painful. *Arnica*, internally and externally, if the inflammation arises from a punctured wound.

Dose.—Of the specific remedy, give six drops every six hours.

Inflammation of the Interdigital Spaces.

Diagnosis.—An inflammation develops itself in the space between the toes of the hoofs of cattle and sheep, causing the hoof to swell, and the animal to limp. The inflammation is very painful. The little glandular follicle in the corner of the hoof becomes ulcerated and extended like a worm. The inflammation may be caused

by disease, or by uncleanliness, or the presence of foreign bodies.

Treatment.—If caused by foreign bodies, press the pus out, remove the foreign substances, wash the sore with tepid water, and apply a compress moistened with *Arnica lotion.* If the foot is hot and painful, give *Aconite;* and, if the ulcer becomes phagedenic, give *Arsenicum*, *Squilla* and *Sulphur.* Keep the sore clean. (Compare "*Ulcers*" and "*Grease.*")

Inflammation of the Sole.

Diagnosis.—An inflammation of the sole occurs among domestic animals generally, and among horses in particular. The animal walks on the toes, in order to protect the soles as much as possible. If the hind feet are alone affected, the animal spreads them apart in order to support the front part of the body; if all the four feet are affected, the animal limps and will scarcely budge. When standing, the horse raises the affected foot and then puts it down again slowly, and, if the trouble is far advanced, the horse will scarcely rise, and contracts the leg spasmodically. If neglected, suppuration takes place; the soft parts of the foot swell, break, and discharge a fetid pus, which sometimes burrows behind the horny hoof, and separates it completely.

Causes.—In horses with full or flat hoof, the affection is caused by shoes that are too tight, or it may be caused by excessive running on stony, uneven ground.

Treatment.—The horse should be kept quiet, and the shoes should be so altered that they cover the toes rather than the sides of the hoof. Institute the following treatment:—Give a few doses of *Arnica*, to be followed by

Conium. If there be much pain, give *Arsenicum*, followed by *Acid. phosph.*, and, if the foot be inflamed, give *Squilla*. Insert the feet frequently in cold water. If pus have formed, cut away all the detached portions of the horn, in order to give the pus a chance to escape.

Inflammation or Swelling of the Udder.

Diagnosis.—Shortly before or after parturition, and sometimes after weaning, the udder becomes inflamed and swollen. The udder is swollen, hot, tense, and hard; sometimes blood is discharged from the teats, and the animals experience pain at every contact. If the inflamed part becomes more and more hard, swollen, hot and painful, and the central portion of the swelling is gradually softened, an abscess forms, which either breaks spontaneously or else has to be opened with a knife, after which pus and blood are discharged from the abscess. Sometimes *indurations* form in the interior of the udder, without any perceptible alteration in the outer skin. The natural swelling of the udder and of the milk veins in the last week of pregnancy, which is particularly striking in mares, should not be confounded with the aforesaid affections.

Causes.—Congestion of the lactiferous ducts in consequence of a cold; if the milk is not speedily drawn out an inflammation will set in. Injuries of the udder may likewise cause it.

Treatment.—A few doses of *Aconite*, and afterwards *Bryonia*, *Dulcamara* and *Chamomilla*, speedily remove inflammations caused by colds. *Bryonia*, *Chamomilla* and *Belladonna* should be given if glandular swellings are felt in the interior of the udder. *Arnica*, when the

swelling is caused by injuries; if the swelling should be considerable, give a few doses of *Aconite* previous to *Arnica*. If the swelling is to be brought to a head, *Hepar sulphuris* will facilitate this. *Asa fœtida* and *Mercurius vivus* when a thin pus is discharged. *Pulsatilla* and *Silicea* gradually heal the suppurating sores. Give *Arsenicum* and *Secale* if the inflammation threatens to become gangrenous. The patient should be guarded against fresh colds. The natural swelling above alluded to cannot be prevented. The dose may be repeated every four hours.

Injuries from pressure, abscess of the withers, fistulous withers.

Diagnosis.—It sometimes happens that animals which are used for drawing or carrying loads, are injured by the saddle, girth, yoke, etc., and the skin is rubbed sore. If these sores are neglected, inflammations and ulcers may arise, incapacitating the animal from work, and requiring a longer period for their cure. If the animal, while at work, shows by particular movements and turnings, that it has been injured by the saddle or yoke, we discover the particular spot without any trouble, by removing the harness and passing the hand over the whole of the parts that had been covered by the harness. On touching the sore spot, the animal will show signs of pain. If neglected, fistulous ulcers may break out on the back and withers, and the animal may perish.

Causes.—Bad condition of the horses; the saddle may be broken, or too tight, or nails may stick out. The harness should fit the horse well, and be kept clean from dust; it should be oiled as often as necessary.

Treatment.—*Arnica*, internally and externally. *Arnica-lotion* may even be used, if the sore has become hard and looks like soaked sole-leather. *Bryonia* in conjunction with *Arnica-lotion*, is useful for hot, tense swellings, caused by the pressure of the saddle. *Conium*, when the swelling is less hot and more recent. *Mercurius vivus* when pus has formed in the swelling. *Pulsatilla* and *Arsenicum* for suppurating sores, the latter, if there be inflammation, and the sore has hard, inverted edges. *Mercurius*, *Arsenicum*, and *Sulphur*, if the spongy excrescences, which sometimes form around the sores, begin to suppurate. *Pulsatilla*, if fistulous ulcers form. *Asafœtida*, and *Silicea*, for caries of the bones. A few doses of *Sulphur* may complete the cure. The animal should be allowed some rest during the treatment, and the defects of the harness should be removed. Repeat the dose every six hours.

Injuries of the Eyes.

Diagnosis.—The animal closes the eye suddenly, and tears flow out of it, generally in the day time. If rough or pointed bodies have got into the eye, it becomes inflamed more or less. See *Ophthalmia* for treatment.

Causes.—Blows, bruises, or foreign bodies have got into the eye.

Treatment.—Remove the foreign bodies. Give *Aconite* for inflammation; *Conium* when the eye has been bruised by a blow and the whites are injected; bruises of the cornea, nails having deeply penetrated into the orbit, etc.; and also when it becomes impossible to remove foreign bodies from the eye. *Arnica-lotion* for

bloody contusions. *Cannabis*, when dimness remains behind. Repeat the dose every six hours.

Injuries of the foot.

Diagnosis.—If an animal has stuck a nail, thorn, splinter, bone, or some other pointed body into its foot, the animal limps, dragging the wounded leg along. Sometimes the foreign body is broken off at the point, and the skin closes over it so as to hide the point entirely; and to induce a belief, in the minds of ignorant persons, that the lameness arises from a dislocation, sprain, etc. In nine cases out of ten, the lameness arises from the presence of foreign bodies in the foot; they may be discovered by pressing upon the foot, or in the case of horny hoofs, by pinching them with pincers; in this way the wounded part will easily be discovered, for the foot of the animal twitches, and signs of pains become manifest.

Causes.—It is not advisable to employ broad nails with round heads in the place where the animal is kept; for, if they fall, they generally remain turned over on their heads, and the point is apt to pierce the animal's foot.

Treatment.—If the foreign substance is seen, it has to be carefully pulled out, so that the point does not break off. The wound may previously be somewhat enlarged. If the body is concealed under the skin, the exact spot has to be found out in the manner indicated, for which purpose the shoe has previously to be removed; after which an incision is to be made, and the body pulled out. After the substance is removed, we wash the wound with Arnica-lotion, and wrap the foot in rags, in order to prevent the introduction of dust. If the foot

is inflamed and hot, give first a few doses of *Aconite*, and afterwards a few doses of *Squilla* and *Arsenicum*, and, if the sore should have ulcerated, and a thick pus should be discharged from the wound, we give *Silicea;* if the pus have a badly-looking color, we give *Mercurius vivus*, and if the pus be thin and fetid, we give *Asa fœtida*; in the case of fistulous ulcers, we resort to *Pulsatilla.* Repeat the dose morning and evening.

Insects, bites of

Diagnosis.—The sting of a wasp, etc., causes violent pain and swelling of the part, but is not otherwise dangerous. But if the animal is attacked by a whole swarm of such insects, a violent fever and inflammatory swelling may ensue, and the animal may perish. Flies cause less mischief, except in summer, when they frequently torment horses so as to cause them to grow thin. The so-called gad-flies deposit their eggs into the nostrils of horses, and give rise to larvæ. Cattle are tormented by a similar kind of fly in the summer, which deposit their eggs in the skin of these animals, and thereby cause troublesome swellings. Sheep are likewise visited by this kind of vermin, which deposit their eggs into the nostrils of the sheep, and develop larvæ that crawl up into the frontal sinuses, causing the disease termed *vertigo.* The wood-louse bores into the skin of sheep, until blood is drawn, and adheres so firmly that, on withdrawing it, the head generally remains behind, causing a troublesome ulcer. Fleas and lice likewise torment the animals, causing them to rub, bite and scratch themselves, and inducing emaciation in spite of the best feed.

Causes.—If an animal is assailed by a swarm of bees,

it is generally because they have been irritated by some cause or other, or disturbed, and have no other spot to alight upon than the horse's back. Flies and wood-lice seek their food. Gad-flies fulfil the business of propagation, and fleas, etc., multiply in consequence of uncleanliness and bad keep.

Treatment.—Small wounds inflicted by bees or wasps get well of themselves. If considerable, *Arnica lotion* may be applied, and if fever be present, *Aconite* should be given. If an animal is assailed by bees, it has to be conducted to a damp place, and water to be poured over it; this will cause the insects to leave. In order to protect cattle or horses that have to be kept at pasture, from the assaults of horse-flies, the animals may be washed every morning with a cold infusion of calamus or walnut leaves; the best preventive is a fly-net, especially for cattle. The wood-louse, if adhering to the skin, is removed by parting the wool, and blowing tobacco smoke upon it, or dropping a little oil upon it. See '*worms*," "*gad-flies*," "*vertigo*," "*fleas*," and "*lice disease*."

Jaundice.

Diagnosis.—The animal is off its food; ruminating animals chew the cud imperfectly; they grow thin, weak, sad, and breathe hurriedly; the milk flows scantily or not at all. The conjunctiva, the mucous membrane of the mouth and nose become yellow, and the tongue is lined with a tenacious mucus. The temperature of the skin is increased; the skin gradually turns yellow, the yellow color being particularly visible where the skin is not covered with hair. Dung and urine are likewise colored yellow.

Causes.—The disease arises from a morbid condition of the liver, such as induration, biliary calculi, hydatids, etc.

Treatment.—The principal remedies are: *Mercurius vivus*, *Chamomilla*, *Lycopodium*, *Arsenicum*, and *Sulphur*. The cure is promoted, if graminivorous animals have only green and succulent feed; and in winter, when there is no green herbage, they should be given cut carrots, turnips, potatoes, cabbage-leaves, etc.; the drink should be mixed up with a little bran, meal, and salt. Repeat the dose morning and evening.

Knocking off a piece of the Horns.

Diagnosis.—Cattle often knock off a piece of the horn, leaving only a small fragment standing. Sometimes the whole horn breaks off, causing an hæmorrhage. If the root remains standing, a new horn grows out, but much smaller.

Causes.—A fall, or a violent blow or push.

Treatment.—If a part of the horn is broken off, apply a compress with *Arnica-lotion*, and fasten the compress to the other horn; moisten it frequently with the lotion. If the whole horn is broken off, apply *Symphytum-lotion* externally, and give *Squilla* internally.

Labor.

Mechanism of Labor.—Horses carry their young eleven, cattle nine, sheep five, hogs four, and dogs two months. After the lapse of these respective periods, the fetus is completely formed, and is then expelled from the womb. This expulsion is effected by means of *labor-pains*,

arising from contractions of the womb, which occur more and more frequently and with increasing violence. The fluid which is enclosed in the membranes of the fetus, is pushed forward and helps, by means of its increasing expansion, to gradually dilate the female organs and to facilitate the passage of the fetus. It is improper to tear the membranes too soon, as is so often done by ignorant cow-leeches; they rupture of themselves in due time, the waters flow out, and the head of the fetus, resting upon the fore feet, presents, and after a while, passes through the external organs, followed soon after by the rest of the body; the separation is completed by the tearing of the umbilical cord. Shortly after, a few more slight pains take place, in consequence of which the after-birth is expelled, and a natural labor takes place without interference. Sometimes, however, art has to interfere, as when the *pains are too feeble*, or *too violent*, causing convulsions, or when they cease entirely. Or in the case of a wrong presentation, the fore feet or the head not being perceived in the vagina, or both the hind feet presenting, or the feet being turned towards the back of the mother and the body of the fetus being almost or completely invisible; these anomalous positions may be discovered by making an examination with the hand, or, in the case of smaller animals, with the fingers. If the organs are very small, or if the fetus has a large head, or is dead, the expulsion becomes difficult. The death of the fetus is inferred from the cessation of all the movements of the fetus, or from the discharge of fetid ichor. Sometimes there is inflammation of the womb with fever, swelling and warmth in the vagina, discharge of blood from the vagina, frequent,

but ineffectual desire to urinate, hurried breathing and loss of appetite. The womb may become prolapsed or everted after labor; the after-birth sometimes remains behind in the womb, hanging partially out at the vagina; and the young ones sometimes are affected with swellings of the navel, which may be prevented by tying the cord immediately after the expulsion of the fetus, a few inches from the body of the animal, and then cutting it off a little below the ligature with a pair of scissors. A few days after labor an inflammation of the peritoneum, uterus, etc., may set in; the animal trembles, is off its food, sad, the breathing is hurried and anxious, the patient is thirsty, costive, staggers as if the small of the back were lame, lies down frequently, but has soon to rise again in consequence of the pain, until the hind-quarters become entirely paralysed and the animal is unable to rise again. It moans, grits its teeth, rolls its eyes, the abdomen becomes distended, the udder is hot and tense, and the milk disappears. These phenomena succeed each other in rapid succession, the disease runs a very rapid course, and, unless speedily checked, terminates fatally.

In strong and healthy animals labor generally is an easy process, and no interference on the part of man is required. If the animal is feeble and sickly, the pains sometimes cease, or are too feeble. The various causes which prevent or retard the expulsion of the fetus, have been mentioned in the previous paragraph. Inflammation of the womb is frequentfy caused by hard labor or by a cold. Hard labor may likewise bring on prolapsus, especially if the case had been improperly managed. Adhesions of the after-birth to the womb prevent the expul-

sion of the former. If the cord tears too close to the abdomen, the naval swells. Puerperal fever is caused by a cold or by improper feed.

Treatment.—If the pains are too feeble, give *Pulsatilla;* if too violent and spasmodic, give *Secale corn.*, and if they cease entirely give *Opium.* If delivery is delayed in consequence of the head being engaged in the vagina, with only one foot or no foot at all, the fetus has to be pushed back, and the other foot or both feet have to be brought down by grasping them with the hand, for which purpose the arm has to be introduced into the vagina after having previously been well oiled; in the case of small animals this operation has to be performed with the fingers. If the head is bent backwards, it has likewise to be pushed back, after which the nostrils are grasped with the thumb and index-finger, and the head is turned and pulled out. If the hind-feet protrude and delivery cannot be accomplished in spite of art and the efforts of the animal, it is necessary to attach a linen band round each foot and so pull the fetus out in this manner. If the feet are turned towards the back of the mother, the feet which are nearest the vagina have to be reached for, and, being grasped, have to be pulled out, after which appropriate assistance has to be afforded further. If the parts are too narrow, delivery is facilitated by gently compressing the vagina behind the head of the fetus every time a pain is felt. If the fetus is dead, and is not expelled spontaneously, it has to be pulled out by means of a linen band. The pulling should only take place during a pain. After a heavy labor the animal may be given a heavy dose of *Arnica.* If symptoms of metritis show themselves, a dose of *Aconite* may be

given every fifteen minutes, and, after four doses, a dose of *Arnica* every two hours, until the fever ceases. A few doses of *Sabina* will remove the remaining pressing, and the swelling in the vagina yields to *Bryonia*. If partial prolapsus takes place, the uterus is pushed back into the pelvis, and *Sabina* and *Pulsatilla* are administered; these remedies will cure the defect. If the whole womb is out, it has to be put back without loss of time, lest it should become inflamed. If the womb should have become dirty, it has to be washed off gently with tepid water, after which the organ is replaced into the pelvis, to facilitate which, the hind part of the animal is placed a little higher than the front part, and the hand is frequently dipped in warm milk or cream. Afterwards *Arnica-lotion* is injected, and the vagina is kept closed by means of a wet cloth for three or four hours. In case of fever, a few doses of *Aconite* may be administered. If the animal bears down so violently that it prevents the litter remaining in proper position, it is well to tie a cord round the groin close to the hind legs of the animal, but not too tight. Or a hog's or calf's bladder which is previously to be soaked in warm water, is tied to a tube about six inches long which is passed through the orifice of the bladder; this is then crowded into the vagina as far as the tube and distended by blowing through the tube, after which the passage is closed behind the tube and the bladder is left in the vagina until the protrusion of the fetus is no longer to be apprehended; the bladder is then opened and drawn out again. Sometimes a small part of the fetus protrudes prematurely; push it back and give *China*. For the non-delivery of the after-birth, see "*Miscarriage*." Swelling of the umbilicus is re-

moved by giving *Arnica* externally and internally. In puerperal fever we first give *Aconite*, until the patient is quiet; afterwards, if the bowels are distended, give *Belladonna;* if the small of the back is lame, give *Nux vomica* and *Rhus toxicodendron; Chamomilla* favors the secretion of milk.

Lachrymation.

Diagnosis.—Secretion of saltish tears which sometimes destroy the hair; provided it does not arise from some other morbid condition of the eye, which has to be well considered.

Causes.—Improper diet and such like influences.

Treatment.—Ledum and *Pulsatilla* are the principal remedies; *Agaricus muscarius*, when the tears flow profusely; *Acidum phosphoricum*, if the hairs are destroyed by the tears; *Euphrasia* if there is some inflammation; *Sulphur* to complete the cure. Give a dose every morning and evening.

LAMENESS, *see limping.*

Lameness of the head of the fenur.

Diagnosis.—This lameness is always accompanied with limping which becomes more and more violent by motion. The hip-joint is swollen, and the thigh becomes atrophied after a period.

Causes.—Violent exertions, a cold or some internal taint.

Treatment.—One dose of *Petroleum* or *Ledum* every day. *Rhus toxicodendron* is very useful in this disease when caused by an exertion or a cold. If depending upon some internal taint, give *Sulphur.*

Lameness of the hip.

Diagnosis.—The affected hind-leg is dragged along on the ground, and somewhat laterally, and, when stepping backwards, the limb can scarcely be moved. During rest, the limb rests upon the toes, but is frequently twitched upwards on account of the pain. On examining the limb from below, no injury is discovered until one reaches the hip where the animal shows signs of pain, when pressure is made. If the lameness arises from injury, it is made worse by walking; if of a rheumatic nature, the pain is diminished by walking.

Causes.—Straining of the ligaments of the hip-joint when slipping, or making an effort. Blows or kicks in the region of the hip. Rheumatism from over-heating or taking a cold.

Treatment.—If caused by an injury, strain, etc., give *Rhus toxicodendron* and *Arnica*, the latter also externally; if the bone is injured, give *Symphytum* instead of *Arnica*. Rheumatic lameness yields *Aconite*, *Arsenicum* and *Nux vomica*. If a hot swelling is present, give *Aconite* and *Bryonia* alternately. The animal should be allowed the necessary rest. Repeat the dose every six hours.

Lice disease.

Diagnosis.—Domestic animals, especially when young and weakly, are sometimes plagued by lice to such an extent that the patient becomes feeble, emaciated and finally perishes. The animal rubs and scratches itself all the time, denuding the skin, causing it to bleed; upon careful examination, we discover on the animal, particularly on the chest, which is their favorite resort,

lice, a peculiar variety of which is peculiar to every animal, we find them in the hair, wool or on the bristles in astounding numbers.

Causes.—Want of cleanliness, bad keep; sickly constitution. Sound animals may be infected by such as are affected by lice.

Treatment.—If close and damp stables and bad keep are the cause of the trouble, these conditions have to be altered at once. If the animal is sickly and feeble, give *Absynthium* and *Sulphur;* if debilitated, give *China*, and if worms are present, give *Cina*. Make a salve of pulverised seed of parsley which is to be well mixed with three times the quantity of hog's lard, and rub it on the animal's back with a wisp of straw; or else the skin may be washed with an infusion of absynth. In the case of sheep, the wool has to be parted, and the salve rubbed on the skin. The above-named remedies may be given in repeated doses, at least twice daily.

Limping, Lameness.

Diagnosis.—If the animal drags one leg or the body, in walking, is lower on one side than on the other, and there is no injury perceptible in the leg, the cause of the lameness, in nine cases out of ten, is in the foot. On pressing against the sole, the animal will show signs of pain, when the affected part is pressed against. If the foot is sound, feel all along the leg, and especially in the joints, in order to find out whether there is pain or increased temperature anywhere. Move the leg at the same time.

Causes.—Penetration of foreign bodies; external in-

juries; rheumatic pains; straining of tendons, ligaments; forcing a nail into the foot, or bad shoeing.

Treatment.—Lameness by external injuries is treated with *Arnica-lotion*, and, if the bone is affected, we use *Symphytum officinale.* Foreign bodies in the sole, between the toes, have to be pulled out. The treatment has to be modified according to the location and the various causes of the affection, for which purpose consult the respective articles, such as lameness of the hip, inflammation of the foot, grease, fracture, lumbago, rheumatism, sprain, etc.

Lithiasis, Stone in the Bladder.

Diagnosis.—There are some cases of this disease among horses and cattle, and very few among dogs. Only the mules are liable to it. The animal, which otherwise seems healthy and lively, shows frequent urging to urinate, the urine passing off only in drops. Little by little the animal becomes more restless, kicks the abdoman with its hind-legs, moves its tail continually, and looks frequently at its sides. If no improvement takes place in some days, the bladder swells more and more, until it bursts. After this accident, the animal eats again for a couple of days, but then perishes. It is therefore important to watch the animal strictly.

Causes.—Stony concretions pass from the bladder into the urethra, preventing the flow of urine.

Treatment.—*Uva ursi* prevents the inflammation and constriction of the urethra, and promotes the expulsion of calculi. *Lycopodium* and *Urolithinum* have likewise been employed with success. In the case of large animals, the expulsion of stone is promoted by introduc-

ing the hand into the rectum, and gently pressing the bladder forward. If the stone has become incarcerated in the urethra, inflammation and distention of the bladder supervene, and the animal generally perishes; it is best to kill them in season, and use their flesh. Lithotomy is a hazardous operation.

Lock-jaw, Tetanus.

Diagnosis.—Horses are principally liable to this disease; cattle and swine less frequently, and sheep and dogs less. The symptoms being pretty much the same in all cases, we will confine ourselves to a description of the disease as it occurs among horses. The first symptoms are easily overlooked. At first the appetite is not much impaired, the chewing is rather difficult, saliva flows out of the mouth; the tip of the nose is spasmodically affected so as to expand the nostrils into a triangular form. The eyelids are more widely apart, the eye looks inflamed, and is more or less fixed; the tail is twisted towards one side, the hind-legs become rigid, and the animal walks with its legs stretched apart, staggering and with great effort. Little by little the whole animal becomes affected by the spasm, both jaws become firmly pressed together so that they cannot be opened by force without breaking them. The animal stares, the ears and neck become rigid, the breathing becomes labored and hurried, the expelled air is hot, and finally the whole animal becomes rigid and looks like a wooden horse. The sweat which now breaks out, becomes cold as ice, but little dung is passed, of a dark color and hard. The saliva which becomes more and more viscid, can be drawn out in threads, and becomes

fetid. The disease may last from five to eleven days, but never beyond a fortnight, after which period the animal perishes.

Causes.—Suppression of the cutaneous exhalation in consequence of a cold, especially in animals of sensitive nerves and irritable temper. Wounds may bring on the disease, but even in this case, a cold is generally the determining cause.

Treatment.—Commence the treatment with frequent doses of *Aconite*, on account of the inflammatory condition which is always present at the commencement; after this, give *Nux vomica*, a few doses a day, and if an improvement takes place on the third to the seventh day, give the remedy less frequently. At a more advanced period of the disease, *Belladonna* and *Opium* may be used alternately. *Mercurius solubilis* and *Veratrum*, are said to be useful remedies. If the tongue should remain paralysed, so that the animal is unable to eat or drink, give *Ipecacuanha*, and if the legs remain rigid, *Arsenicum*. These remedies will act best, if the patient can be buried in sheep's dung up to the head for about four hours, after which he is to be taken out, well rubbed with straw in a warm stable, and covered with woolen blankets. If tetanus arises after an injury, sticking a nail into the foot, docking, etc., or if a foreign body should have penetrated the sole, remove this substance, for which purpose the wound may, if necessary, be cut somewhat larger, and afterwards dress the wound with Arnica-lotion, pursuing otherwise, the same internal treatment as above. As long as the animal is able to swallow, give it drinks mixed with meal. The dose may be repeated every few hours.

Loose Teeth.

Diagnosis.—Cattle chew slowly, and do not seem to relish their feed; saliva flows from the mouth; upon examination, we find that the teeth are loose and the gums painful.

Causes.—This affection is peculiar to cattle, and arises from a cold.

Treatment.—*Carbo animalis*, and *Mercurius vivus*, or *Solubilis*, and *Staphysagria*, especially when the gums are painful. Lastly, *Sulphur*, two doses daily.

Lumbago.

Diagnosis.—Even in a slight degree of the disease, the small of the back is caved in, the hind-quarters shake, and the animal is scarcely able to move backward. In bad cases, the shaking and the dragging of the hind-quarters are so violent that the animal threatens to fall down every moment, and cannot be made to stir. In the worst form of the disease, the animal is unable to raise the hind-quarters, is constantly lying down, or in rising, leans upon the fore feet, like a dog, expresses pain, draws a labored breath, and frequently looks at the affected flank. The animal shows a good appetite, and, if the disease was caused by violence, external injury, or even rheumatism, a hot and painful swelling is observed in the lumbar region. No other changes are perceptible in these parts.

Causes.—Violent exertions, slipping, sudden springing up; blows or kicks upon the small of the back; difficult labor, a cold; sometimes the disease is caused by rheumatism, or some internal taint.

Treatment.—If caused by external injury, give *Rhus toxicodendron* and *Arnica*, the latter to be used externally as well as internally. If caused by labor, give *Arnica*, *Phosphorus*, *Nux vomica*, and *Pulsatilla*, and if caused by a cold, give *Dulcamara*, *Bryonia*, and *Acidum nitri*. If caused by rheumatism, with painful swelling in the lumbar region, give *Aconite* and *Bryonia*, alternately, and if depending upon some internal taint, *Sulphur* and *Stannum*. If the whole spine is sensitive, give *Ipecacuanha*, *Cocculus*, and *Pulsatilla*. In obstinate cases, give *Arnica*, *Patroleum*, *Oleander*, *Rhus toxicodendron*, *Sulphur*, *Cocculus*, *Lachesis*, *Ipecacuanha*, *Conium*, *Pulsatilla* and *Silicea*, in the order here indicated. Repeat the dose morning and evening.

Lupus.

Diagnosis.—An inflammatory swelling between the forelegs and the breast of horses; such as have a narrow chest, are principally affected by it; if neglected, it becomes covered by a scurfy eruption, and discharges a viscous, acrid, fetid humor, which spreads and causes a sore.

Causes.—Internal taint, accumulation of filth between the forelegs.

Treatment.—Wash the parts, and give *Arnica* internally, if the skin be sore and a discharge of ichor, give *Secale cor.* and *Sulphur*, and, if the sore have become malignant, see "*Ulcers.*"

Malandres.

Diagnosis.—An eruption on the posterior hock or on the anterior knee-joint, less frequently on the four legs

together. An acrid humor is secreted from the swelling, eating away the hair, forming scurfs and rhagades, and causing a lameness of the affected limb.

Causes.—Want of cleanliness, internal taint.

Treatment.—*Thuja* and *Scabiesinum equorum*, are the principal remedies. If the eruption should get well, and the joint remain somewhat stiff, we give *Iacea* and *Sarsaparilla*, and for the remaining lameness, *Petroleum.* To complete the cure, give a few doses of *Sulphur.* The eruption may be frequently washed with water, but should not be rubbed with straw. Give one dose daily.

Mange.

Diagnosis.—This disease resembles very nearly the human itch, and befals all kinds of domestic animals, especially horses, sheep, and dogs. It is either dry and scaly or humid and ulcerous. Itch varies on the different kinds of animals, but is the same in essence. The animal becomes restless, scratches and rubs itself, on which account the diseased parts soon become denuded. In the dry variety, the parts seem covered with a whitish dust, which keeps spreading. In the ulcerous variety, small vesicles start up on the denuded parts; these break, and discharge a glutinous fluid, which becomes changed to crusts, beneath which the ulcerative process continues. If the eruption spreads over a considerable surface, the animal grows thin in spite of a continued appetite, and sometimes dies of dropsy, consumption, etc., frequently after the lapse of several years. Old, badly-kept horses, or emaciated cows, are especially liable to this disease. Sheep are attacked by this disease in a variety of forms.

Among hogs, the disease is most easily cured; it is most tenacious in the case of dogs.

Causes.—The use of spoiled food, scantiness of feed, or, in the case of dogs, rich and excessive feeding; close and damp stables; bad keep; rainy weather, which is especially apt, among sheep, to cause the humid or ulcerous itch; contagion spreading from infected animals.

Treatment.—The infected animal should be separated from the flock, and should be provided with a wholesome place of abode, good feed, and proper attendance; if the feed had been too scanty, increase the allowance, and if the animal was in too high keep, reduce it. If sheep and dogs have been diseased a long time, it is well to shear them. Give first three doses of *Sulphur*, one a day, afterwards *Staphysagria*. Give *Mezereum* for itching pimples with redness of the skin; *Dulcamara* for vesicles containing a yellowish fluid which changes to crusts, and also in the dry form with scales; *Clematis erecta*, when the eruption breaks out in clusters, and *Thuya occidentalis* when the lower parts of the legs are principally affected. *Sepia* and *Sulphur* terminate the cure. A rapid means of cure is to wash the patient in water that has been used for scalding slaughtered hogs. An excellent remedy for mange, especially with sheep, is Dr. Guenther's *Balsamus terebinthinæ sulphuratus*, which every one may prepare himself in the following manner. Dissolve one part, by weight, of *Sulphur*, in four parts, by weight, of linseed-oil, by boiling them together over a coal fire. Mix one part, by weight, of this black-brown, elastic oil, with three parts, by weight, of turpentine, by exposing the two to a gentle heat, and the new product is the aforesaid balsam. Give the diseased animal a dose of two

drops every day, and the cure will soon be completed. In case of diarrhœa, loss of appetite, etc., treat these affections as indicated under their respective headings.

Measles.

Diagnosis.—At first it is difficult to recognize this disease; emaciation, debility, fetid breath, staggering gait, hoarse grunting, swelling of the lower jaw and sides of the head, loss of appetite, etc., are some of the incipient signs. A positive sign of the disease is obtained by throwing the animal down, parting the jaws by passing a stick between them, and pulling out the tongue for the purpose of examining the lower side of it. If we there discover little pimples or vesicles of the size of a millet seed or larger, which can be felt with the finger, the disease is present. It is a species of hydatids, which are scattered through the body here and there, in greater or smaller numbers and of various sizes. The disease sometimes terminates in sore and anthrax, and, if left to itself, becomes fatal.

Causes.—Close, damp, unclean sties; too little exercise in the open air; the disease is generally hereditary, affecting young animals.

Treatment.—Give one dose of *Kali carbonicum* every day, and several times a week mix some ashes of beach or oak wood amongst the feed. Keep the sties clean and wholesome, and allow sufficient exercise in the open air.

Megrims.

Diagnosis.—This affection is very much like vertigo, and attacks principally horses. The animal suddenly presses forward with the head held high, and, after stag-

gering, falls down without consciousness. If the animal is assisted at this moment, without loss of time, it at once rises up again, attends to its business, and the trouble seems over.

Causes.—The reflux of the blood from the brain is impeded by pressure from the yoke or harness.

Treatment.—As soon as the animal threatens to fall, or is actually down, ease the chest from the yoke or harness; this will give the animal a chance to breathe more freely, and to start up. Adjust the yoke and girth so as to facilitate the process of breathing and not to interfere with the circulation.

Milk, Bad or Deficient.

Diagnosis.—Compare *diarrhœa*, *lameness of lambs* and *aphthæ*, as caused by the bad quality of the mother's milk. In this chapter we will allude to some specific anomalies of the milk. *a*, *Bitter milk;* not only the milk, but also the cream and butter, have a bitter taste. *b*, *Blue milk;* the milk is not blue, but has its natural color; but the cream has small bluish spots on the surface, or else it is blue throughout, and the butter obtained from it, and the buttermilk, have a greyish appearance. *c*, *Watery milk;* the milk is thin, watery, and yields little or bad cream. *d*, *Red or bloody milk;* from one or more teats milk mixed with blood is drawn; the udder is generally inflamed, or the teats are cracked, and blood is drawn from these fissures during the process of milking, or else the teats may be pulled so violently that some delicate blood-vessel may be torn in consequence, and a little blood may be discharged. *e*, *Excess of milk;*

this condition may take place after weaning, in animals that are not milked afterwards; sometimes the defect may arise in animals immediately after delivery; the udder fills up, and may become inflamed. *f, Deficiency of milk;* there is little or no milk after delivery; the udder remains small and shrivelled, and the young ones either perish or remain puny. After an illness the milk sometimes ceases to flow. *g, Viscid milk;* immediately after being drawn, the milk is sometimes viscid and even purulent. *h, Spontaneously-flowing milk, galactirrhœa;* this is different from the spontaneous flow of milk which takes place during lactation, if the foal have not been suckled for a couple of hours; in the former affection the udder is swollen, inflamed and indurated, or the flow may arise from debility. *i, The vanishing of the milk;* the milk which had begun to make its appearance after delivery, soon vanishes again; if this takes place suddenly the trouble is more easily remedied than when coming on gradually.

Causes.—The feed has great influence on the taste, color, and quantity of the milk. Bitter milk may be caused by eating bitter clover, turnips, etc.; *blue* milk by eating herbs yielding a blue juice; *watery milk* by eating potatoe-tops; *bloody milk* by eating highly stimulating food, and an *excessive flow of milk* by a high keep. Bloody milk is likewise caused by injuries, inflammations of the udder; *deficiencies of the milk* by constitutional debility, starvation, etc.; *spontaneous flow of milk* by inflammation and induration of the udder, and *vanishing of milk* by a cold, and by want of action in the lactiferous ducts.

Treatment.—For bitter milk, which has a repulsive taste, give *Sulphur, Phosphorus,* and *Antimonium tartari-*

cum. For blue milk, *Pulsatilla* and *Nux vomica.* For watery milk, *Sulphur*, *Pulsatilla*, and *Nux vomica*, and if the skin of the back should be indurated, *Aconite* and *Belladonna.* For bloody milk, give first a few doses of *Aconite*, and, if the teats should be inflamed, *Phosphorus.* Give *Sulphur*, if there should be cracks in the teats (the cracks may be covered with unsalted butter;) if the udder is wounded, use *Arnica* externally and internally. Do not milk the cows by pulling the teats, and content yourself with pressing upon the udder from above downwards. *Ipecacuanha*, if no external symptom of disease is visible. For excess of milk after delivery or weaning, give *Belladonna;* in the latter case, the milk has to be frequently sucked out or milked out. For deficient secretion of milk in consequence of inflammation, give *Aconite*, and afterwards *Chamomilla;* if caused by a cold, give *Chamomilla* alternately with *Dulcamara;* if the udder be inflamed and swollen, *Bryonia* alternately with *Belladonna;* after a severe illness *Acidum nitri*, and if from internal taint, *Sulphur.* For viscid milk, give *Sulphur*, *Nux vomica*, and *Natrum muriaticum.* For spontaneous flow of milk with swelling of the udder, give *Belladonna;* if accompanied by indurations of the udder, *Chamomilla;* if by debility, *Sulphur* and *Calcarea carbonica.* For vanishing of milk, give *Belladonna*, *Chamomilla*, *Rhus toxicodendron*, and *Phosphorus.* It stands to reason that if food has anything to do with the quality of the milk, only such food should be given as will favor the secretion of good, sweet milk. The milk should always be kept in clean vessels, not exposed to the vapor of tobacco, oil-lamps, etc.; nor should the milky cows be allowed to sojourn in stables that are not properly ven-

tilated, dry, or that are in any way unwholesome. The dose may be repeated every twelve hours.

Miscarriage.

Diagnosis.—If miscarriage threatens, it is generally indicated by precursory symptoms, such as anxiety and depression of spirits, dischage of fetid mucus from the pudendum, and collapse of the abdomen. It frequently happens that the after-birth remains in the womb after miscarriage, adhering to the fleshy excrescences in the womb, and, in such cases, the after-birth passes off gradually in a putrefied condition, and entails a lingering illness on the animal. It is therefore necessary to assist the animal in season.

Causes.—Injuries inflicted on the abdomen; great exertions; violent chasing; spoiled, fermenting, frozen feed; internal disease.

Treatment.—After injuries give *Arnica; Sulphur* for internal psora. *Sabina*, if miscarriages occur frequently in the district. *Pulsatilla*, *Sabina* and *Secale* facilitate labor, if it has begun to set in. *Aconite* and *Pulsatilla*, if chills occur. If the after-birth does not come away in twenty-four hours in spite of this treatment, attach to it a little weight of iron, and, if this does not bring it away in twelve hours, pass the left hand around it in the case of larger animals, and with the right hand, well oiled, break down the adhesions with great care. Repeat the dose every two hours.

Mumps, Parotitis.

Diagnosis.—In horses the parotid gland sometimes becomes painful, hot, swollen and tensive: there is

fever, the head is turned obliquely or stretched out straight, and the swallowing is impeded.

Causes.—Cold, injury, internal taint.

Treatment.—*Aconite*, *Bryonia*, *Lycopodium* and *Sulphur*, if employed in season, scatter the swelling. If assistance comes too late, the swelling may terminate in suppuration, and a fistulous ulcer may arise. (See Fistulæ.) Repeat the dose every four hours.

Nail in the Feshy Hoof.

Diagnosis.—A nail is sometimes stuck in the flesh while shoeing the horse. Sometimes a little blood is discharged from the wound. Often the horse twitches with the foot while the shoe is put on. Sometimes the lameness is not perceived until a few days after the shoeing. After the nail had remained in the wound for a few days, and is then pulled out, pus and ichor are discharged from the sore, especially if an incision is made in the wounded part with the knife. If the defect is neglected, the suppuration becomes worse, and the pus is discharged from the coronet. This affection becomes very obstinate.

Causes.—The nails are driven in too near the inner border, or too obliquely. Sometimes the nail is driven in on top of an old piece of nail, or a splinter of a nail starts off laterally, and is driven into the flesh.

Treatment.—If it is a recent wound, the nail is at once pulled out, and a few drops of *Arnica* are poured into the wound. After the lapse of eight days insert another nail. If the wound is of some days' duration, take off the shoe, and examine each single nail; a little blackish pus will be found attached to the nail that inflicted the

wound. Or by pressing around the border of the hoof with a pair of tongs, the horse's foot will twitch when the sore spot is pressed upon. Enlarge the wound sufficiently to admit of the escape of the pus. Fill up the wound with flax moistened with *Arnica-lotion*, and replace the shoe with a few nails, in order to prevent impurities from getting into the wound; if the horse should be lame, renew the application of the flax, and then replace the hoof. If coronal fistula has already set in, enlarge the fistulous canal so as to enable pus to escape. (See "*Fistulæ*.") Internally give *Lachesis* and *Pulsatilla*. If the pus decreases and thickens, the swelling abates and the limping is less, we may believe that the wound is healing.

Nephritis, Inflammation of the Kidneys.

Diagnosis.—Fever, quick and hard pulse, hurried breathing, colicky pains, frequent urging to urinate, with occasional emission of scanty urine which is watery at the commencement of the disease, and brown or bloody at a more advanced period; the animals arch their backs, and, when the renal region is pressed upon, they show signs of pain; the hind-quarters are stiff and staggering when walking. Horses not unfrequently squat like dogs; cattle and sheep first lie down for a while, and, when standing, move the hind-legs forwards under the abdomen. The animals keep looking to one or the other side.

Causes.—External injuries in the lumbar region, renal calculi, cold, noxious feed, etc., bring on the disease when there exists a previous disposition for it.

Treatment.—Give a few doses of *Aconite;* until an

improvement sets in, afterwards *Cantharis* every two hours, and a few doses of *Nitrum* and *Nux vomica* in alternation. In case of injury, give *Arnica.* Injections of tepid water promote the cure and ease the pain. An incomplete cure is sometimes followed by loss of appetite, tumors, retention of urine, lumbago, constipation, etc.

Obstruction of the Œsophagus.

Diagnosis.—The pressure of a foreign body in the œsophagus, a splinter, a potato, bone, etc., is known by the fact that the animal commences to gag, cough, and show an anxiety; the head is stretched forwards, the neck is elongated, and a quantity of mucus is discharged from the nose and mouth; on examining the throat behind the larynx, we feel a hard, painless swelling under the skin, or else the body is still high up in the pharynx and can be removed with the fingers or with a pair of pincers.

Causes —Excessive greed in swallowing food, on account of extreme hunger; in this way a foreign substance may be swallowed with the feed, or some large body, a potato, etc., may get into the œsophagus, without having been sufficiently masticated.

Treatment.—Spread a mixture of butter and snuff on the back part of the animal's tongue; vomiting will ensue in consequence of which the foreign body will be removed. If the body is too low down, wrap soft linen round one end of a very smooth willow-stick of a length corresponding to the size of the animal, grease it with oil, and insert the end with the linen into the œsophagus for the purpose of pressing the foreign substance into

the stomach; during the operation hold the head high, open the mouth wide and push the tongue to one side. If the parts should have been injured, give a few doses of *Arnica.*

Ophthalmia, acute.

Diagnosis.—Protruded and reddened eye-ball. The eye feels hot to the hand, and the animal expresses signs of pain. The eyelids, which are almost closed, secrete a good deal of humor which becomes transformed to purulent mucus and glues the lids together. The cornea looks dim and whitish, or is covered with a pellicle; the eye-ball looks swollen.

Causes.—Overheating, dust, damp and close stables; injuries; heated feed; hereditary disposition.

Treatment.—Foreign bodies in the eye should be removed, and the eye washed with *Arnica.* If inflamed, give *Aconite*, five doses daily. Give *Belladonna*, if the animal looks as if enraged. *Euphrasia* for lachrymation, *Cannabis* for dimness of the cornea, *Conium* when the cornea is covered with a pellicle.

Ophthalmia, periodical.

Generally only one eye is attacked; the eye looks smaller, secretes tears and is sensitive; when exposed to the light, the eye closes, the cornea becomes dim and leaden, the lens looks light-grey.

Causes.—Dentition, heated feed, hereditary disposition.

Treatment.—*Euphrasia* effects a cure in a fortnight. *Natrum muriaticum* and *Antimonium crudum* are good remedies. *Hepar sulphuris* when much mucus is secreted.

Cannabis for dimness of the cornea; *Sulphur* to complete the cure. Give two doses daily.

Otalgia, ear-ache.

Diagnosis.—Signs of pain in the inner ear. The animal is restless, shakes the head, inclines it to the affected side, rubs the ear against something, scratches it with the hind foot; in the course of the malady, a discharge of pus and mucus takes place from the ear. If deafness is present, see "*Deafness.*"

Causes. — Rheumatic inflammation, spasm, foreign bodies, insects, ulcers in the ear.

Treatment.—Foreign bodies have to be removed by means of a spatula, and the ear bathed with sweet oil. If the inner ear is clean, more or less hot, inflamed and spasmodically irritated, *Aconite* and *Belladonna* may be given in the former, and *Nux vomica* and *Belladonna* in the latter case. If otorrhœa set in, give *Pulsatilla* and *Silicea*. Repeat the dose every six hours.

Otitis, inflammation of the ear.

Diagnosis.—The inner surface of the outer ear is swollen, hot, tensive and painful. The animal is dispirited, lowers its head, and frequently shakes it towards the affected side. If the inflammation is not scattered by appropriate means, suppuration takes place. In the case of dogs the ear is liable to become entirely eaten away by such an ulcerative process.

Causes.—Injuries, a cold, internal taint. In the case of dogs, high keep and much rest.

Treatment.—*Aconite*, *Bryonia*, and *Sulphur* are the best internal remedies; if caused by an injury, apply

Arnica—Arsenicum and *Carbo vegetabilis* are useful, when an ulcer has formed. In the case of dogs, it is advisable to cut the ear off as far as the ulceration extends, and to dress the wound with Arnica-lotion. Repeat the dose every four hours.

Overloading the stomach.

Diagnosis.—If an older animal has overloaded the stomach, it becomes dispirited, lowers the head, shows an aversion to eating, breathes heavily, moans, becomes restless, looks at the abdomen, lies down and rises again, or stands perfectly stiff, is unable to raise its feet when desired to walk. As improvement announces itself with rumbling in the bowels, colic, discharges of flatulence and thin dung. The trouble may terminate in rupture of the stomach or indigestion. In the case of young animals, or such as are suckled by the mother, similar symptoms set in, but principally a lameness and swelling of the joints; the little animal grows thin, is attacked with diarrhœa and recovers slowly.

Causes.—Sudden change from poor to rich feed; unusual diet; excessive feeding. If young ones had been long separated from the teats, they are apt to suck too much and too long.

Treatment.—For overloading the stomach give *Coffea cruda*, or a tablespoonful of black coffee every fifteen minutes. *Arsenicum* is good, if the disease is caused by spoiled or wet feed, or when colic and diarrhœa set in. In case of derangement of the stomach, give *Antimonium crudum*. For constipation give *Nux vomica*, for diarrhœa, with coldness of the ears and feet, *Pulsatilla;* for swelling of the joints and lameness of the extremities with

diarrhœa or constipation, give *Bryonia*. To prevent this accident, give the animals their necessary feed with regularity, change their feed gradually, and prevent the animals from getting to the large supply. If the young ones have been long away from their mothers, draw a little milk from the latter before allowing the young ones to suck. Repeat the dose every six hours.

Overworking, ill effects of.

Diagnosis.—The animal looks sad, drowsy, stands with the head hanging down; they either refuse to eat or eat but little. The pulse is slow and faint, and the feet are often lame.

Causes.—Brisk and continued driving, chasing about,

Treatment—Give *Opium* when the animal is drowsy; *Nux vomica* when averse to eating; *Veratrum* when the animal has a ravenous desire for food; *Aconite*, when the pulse is excited; *Arnica-lotions*, when the feet are lame. Repeat the dose every six hours.

Paralysis of lambs

Diagnosis.—This affection befals little lambs, especially of fine breed. Lambs of six days to five weeks are generally attacked in the months of March and April. The lamb loses its cheerfulness, becomes slow in its movements, lies down a good deal; on the following day it is unable to rise, drags itself along on its knees, the legs, neck, etc., become rigid, the bends of joints fill up, the lamb remains lying on one side paralysed, if fetid diarrhœa sets in, the animal soon perishes.

Causes.—Marshy pastures; spoiled feed of the ewes, which is often resorted to in poor years.

Treatment.—If such a trouble breaks out among lambs, the feed of the ewes has at once to be changed for good, clean, wholesome feed; the drink should be mixed with meal, and frequent doses of salt should be given. The lambs should be given *Mercurius vivus*, *Cocculus*, *Rhus toxicodendron* and *Arnica*. In a high degree of this disease little can be done, though *Arsenicum* and *Pulsatilla* may be given, one dose morning and night.

Paralysis of the Shoulder.

Diagnosis.—This disease principally affects horses, cattle and dogs. The patient stretches the affected limb in advance of the other. In going backwards or forwards, it drags the leg. There is no visible injury; the animal shows signs of pain when pressing upon the affected spot, which feels hot. If injury is the cause, the lameness becomes worse by exertion, and if the disease be of rheumatic origin, the lameness becomes less by exertion. The shoulder is the seat of the disease.

Causes.—Blows on the shoulder; false steps when running or drawing a load; contusions; rheumatic diseases, causing lameness of the shoulder-joint, and of the muscles and tendons thereof.

Treatment.—*Ferum muriaticum* is the principal remedy in paralysis of the shoulder, whether rheumatic or chronic. *Veratrum album*, *Causticum* and *Zincum*, are also useful. *Arnica*, internally and externally, when blows are the cause. *Symphytum*, internally and externally, when bones had been injured. *Rhus toxicodendron*, when caused by a false step. *Aconite*, in recent

cases with inflammatory symptoms. If the trouble had been caused by physical injury, the animal should be allowed perfect rest during the treatment; if the disease is rheumatic, a little exercise may, at times, be useful. Repeat the dose morning and evening.

Pellicle on the Eye.

Diagnosis.—One-half of the cornea is covered with a greyish pellicle, from the inner canthus to the cornea; the eye is more or less closed.

Causes.—Dust, overheating, internal malady; cold or rheumatism.

Treatment.—*Conium* generally effects a cure; *Euphrasia*, and *Cannabis*, if *Conium* is insufficient; *Sulphur*, once a week, to complete the cure; the eye should be washed with cold water every now and then.

Pharyngitis, inflammation of the Pharynx.

Diagnosis.—This inflammation occurs rather frequently among horses. The horse has a good appetite, and will eat soft feed, such as hay, greens, meal, bran, etc., but he is unable to swallow hard feed, such as grains, etc; he fills his mouth very hastily, and chews the corn into a ball mixed up with saliva, which is then spit out again. The horse looks lively and heeds everything, especially preparations for feeding him. The fauces look red, but there is no fever until gangrene supervenes or the throat becomes inflamed.

Causes.—Suppression of the cutaneous secretion, teething, especially in changeable and bad weather.

Treatment.—*Mercurius vivus* and *Natrum muriaticum* are sufficient at the cammencement. If there is fever,

the inner mouth is dark-red, tense, hot and painful, frequent doses of *Aconite* and *Bryonia* may be given. If the fever is accompanied by a dry and wheezing cough, troublesome breathing and stretching the head forward, it is probable that the throat is inflamed. (Compare "Quincy.") The stable should be kept warm, the animal is to be rubbed frequently with wisps of straw and afterwards blanketed; woolen rags should likewise be wrapt round the throat, in order to preserve the cutaneous exhalation.

Phthisis pulmonalis.

Diagnosis.—The animal grows more and more thin, the appetite becomes less, the breathing labored, the cough frequent, and foul mucus or even pus is discharged from the nose and mouth. The hair is less firmly adhering than in the case of sound animals; the animal staggers, frequent diarrhœic stools set in, and the animal perishes.

Causes.—Ulcers in the lungs, which develop themselves after badly-managed pneumonia, in cold and wet weather, etc.

Treatment.—As soon as the disease is suspected, *Nitrum* and *Sulphur* in alternation are useful remedies. At a later stage of the disease, we give *Stannum*, *Phosphorus*, *Calcarea carbonica*, *Lycopodium* or *Mercurius vivus*, in alternation with *Hepar sulphuris*. In the last stage of the disease, no cure can be expected. Give the dose twice daily

Pleurodynia.

*Inflammation of the Muscles of the Chest and fore Extremities.**—"I apprehend the above names to designate affections which sometimes present themselves to us for treatment, and which, from their very close similarity to pleurisy, are very liable to be mistaken for it: from the numerous cases which I have had of the two, and from the *post-mortem* appearances which were presented by those that have died, I am perfectly satisfied as to their occasional existence, and also of their having been overlooked.

Symptoms of Pleurodynia.—One great difference between pleurodynia and pleurisy, is, that in the former affection, the disease exhibits little or no variation; while in pleurisy, as I have previously observed, when detailing the symptoms of that malady, the variations are remarkable, and constitute one of the principal features by which it is to be distinguished or recognised. In pleurodynia the animal moves in a very rigid manner—he steps short and very slow—he is greatly dejected and cast down—the back is arched—the skin over the surface of the body exhibits great tenderness, whether he is handled roughly or delicately; he also grunts a good deal, and great tenderness is sometimes present upon one or both sides of the chest, and the skin presents that state of corrugation I have before spoken of; the respirations are short and limited, and the pulse will generally range from fifty to sixty-four per minute, but on some occasions it is not at all disturbed. If the ear be applied

*Haycock's Manual.

to the chest, the murmur can generally be detected very clearly thoughout, particularly in the superior regions of the cavity, while, if the ear be held close to the lowest part of the inferior region, a sort of rumbling sound is heard; but this sound can only be detected when the skin over the part is more tender than elsewhere, and when it is contracted into folds and moves, and when such contractible motion is continuous. This sound I entirely attribute to the tremulous motion which is going on within the subtextures; for if the ear be kept firmly to the chest, the motion soon ceases, together with the rumbling sound, and providing we remain quiet and the animal be pacified, we can then distinctly hear the clear natural respiratory murmur, though somewhat suppressed, from the constrained manner in which the chest itself is expanded. The hair over the entire body is dry and very unthrifty in appearance. If the animal be made to walk up hill it is performed cleverly, but great difficulty is experienced in coming down again—the patient travels as though the feet were acutely inflamed; the appetite is bad in some cases, and moderately good in others; the urine is scanty, and the dung is dry-looking; the patient does not lie down, and it is seldom or ever that he coughs. In this state the animal may remain for weeks, without the least variation, save that the pulse becomes lower, falling to about thirty-eight or forty-two per minute; but the majority of such cases, if properly treated, are generally cured in from three to six days.

Inflammation of the muscles of the chest and the fore extremities is produced for the most part from very severe exertion. The symptoms are so closely similar in every respect to acute pleurisy, that reference, I think,

to the cause, together with a minutely rigid examination of the various phenomena which auscultation makes known to us, can alone determine the difference with perfect satisfaction.

In one very severe case which I had, and which ended fatally, the disease was caused by the mare being suddenly taken out of the stable and harnessed to a heavy cab and driven severely a distance of two miles, the greater portion of which was up a gentle incline; the day afterwards I was called in, and the pulse was fifty-six per minute and the respirations were twenty-four; the respirations were extremely limited in their action; great tenderness was present upon the right side of the chest, while the left side was free from such; the animal grunted during every act of inspiration; the movements were extremely stiff, particularly those of the fore-legs; the left fore-leg was occasionally advanced and held in a semi-flexed position; a mucous râle was present in the bronchial tubes, and a cough was now and then emitted which was soft and constrained; the corrugation of the skin upon the right of the chest was also present. On the second day, towards evening, matters became worse; the respirations rose to sixty-three per minute, and the pulse became so indistinct as to render it impossible for me to count its beats; the sides of the neck, under the abdomen, and over the hind extremities, became covered with a very hot and profuse perspiration; the limbs maintained a very high temperature, but the feet were deathly cold; the breathing presented a strange gasping, or spasmodic character; she lay down at full length upon the straw, and in that position remained, never rolling over, or even looking at her side; she strained with great

force, and ejected large quantities of urine to a considerable distance, and at the same retched violently, and vomited immense quantities of frothy matter out of the nostrils. In this state she continued for several hours, when death closed the scene.

Examination, three hours after death, showed the digestive organs and the urinary organs to be perfectly healthy. The mucous membrane of the larynx, the trachea, and the bronchial tubes branching into the right lung were of one uniform dark red colour, while the same structures of the left lung were uniformly of a clear bright red colour; the trachea and bronchial tubes were also filled with frothy spume of the kind vomited; the pleura on both sides of the chest was normal; the muscles of the chest and other parts exhibited a most singular appearance; the panniculus muscle of the right side, in the region of the chest and the neck of the same side was covered upon its superior surface with a layer of brown-coloured fluid, in which was intermixed a yellow-coloured coagulum. A similar layer intermixed with the coagulum, was also present beneath the inner surface of the muscle. Similar deposits existed in immediate contiguity with the external oblique—with the transversalis and the recti muscles—the levator humeri and the extensor metacarpi magnus. The substance of these muscles was also greatly changed—large black spots were present within them, and the muscular tissue was greatly softened. Great numbers of other muscles were examined, but all such were found to be healthy. This was a case which I treated for pleurisy in association with pneumonia of the right lung, and it was only after death that I became aware of the fact that the pleura was not

at all involved, but that the inflammatory action was confined to the right lung, and to those particular muscles of the right side which I have enumerated. Since the date of this case I have treated about five or six others of a very similar nature, only not so violent, and without being associated with any other affection. The disease was caused in every case from over-exertion.

Causes of Pleurisy and Pleurodynia.—The causes of pleurisy are generally either epidemical or the disease arises from exposing the animal to wet and cold, such as riding him into a stream of cold water when he is steaming with perspiration, or allowing him to stand in a cold draught. If the disease prevail epidemically, it occurs for the most part during the hot months of the year. Pleurodynia arises from the same causes. Young animals are very subject to it from running at grass and being exposed to wet and cold, or to rapid changes of temperature in the weather.

Diagnosis.—In diagnosing these affections strict attention, as I have before observed, must be given to their cause. The following states will perhaps enable us in some degree to determine as to the existence or not of pleurisy. If the disease be epidemical—if the pulse and respirations be at one time high and at another time low, the former beating now, as it were, at sixty or seventy, and the latter running at from thirty to forty per minute, and in a short time hence, upon again examining the patient, we find the pulse to have fallen to forty or forty-five and the respirations to sixteen or twenty per minute. If the patient cough; if by auscultation we can detect a frictional sound—a sound very similar to the one elicited when the hands are slided

gently together when in immediate contact with each other—and if, moreover, the other parts of the body do not participate in or show that rigidity and soreness which is manifested by the chest, we may, I think, safely pronounce the disease to be pleuritis; but if there be no epidemic affection abroad; if the animal has been out at grass and exposed to bad and changeable weather; if the pulse and the respirations be not much disturbed nor do not vary in that disturbance as above intimated; if the stiffness and soreness be more general; if he travel with moderate freedom up-hill, and very badly back again; and if, finally, the respiratory murmur be clear throughout the chest, we may fairly conclude that the affection is *pleurodynia.*

If the disease be from an inflammation excited within the muscles of the chest and the fore extremities, and also of the cellular tissue investing or surrounding such muscles, the fact, I think, will in a great measure be satisfactorily determined should the animal have been subject to long continued and very severe exertion in harness; this, together with the tenderness of the muscles, and the assistance which auscultation will afford us, will be sufficient to enable us to decide. In conclusion, I may add that pleuritis, pleurodynia, and inflammation of the muscles, may either exist as separate affections, or two or more of them may exist in association, or any one of them, or all of them, may also exist in association with disease of the heart.

Treatment.—The best remedies in general for pleuritis are—*Aconite*, *Bryonia*, and *Arnica*. These three remedies I have generally found all that were needed to cure the disease off-hand. In the majority of cases aconite alone

will be found sufficient: use it of the first dilution, in five-drop doses, a dose to be given every two or three hours for the first twelve hours after the attack; or if the violent symptoms should abate before that time, which is not improbable, go to the third dilution of the same remedy, and give it every four or five hours. If the case, however, be a very severe one, give bryonia 1, in alternation with aconite, after two or at most three doses of aconite has been administered alone.

Pleurodynia.—The best remedies for pleurodynia are *Aconite* and *Arnica*, given in alternation morning, noon, and night. Use them of the first dilution, in five drop doses. I have cured some of the worst cases of this affection, in the course of two or three days, with the above named remedies. Should the arnica, however, fail, try bryonia, or arsenicum, or nux vomica. If the skin exhibit a general state of soreness, aconite and arsenicum will probably be the best. Arnica will also prove of value in pleuritis, particularly if associated at all with pleurodynia.

Inflammation of the Muscles.—The best remedies for this affection will be *Aconite* and *Arnica*. If the case be violent, give them in alternation every two or three hours; and bathe the skin over the affected muscles with arnica-lotion, in the proportion of one ounce of arnica to a pint of water, and apply it three or four times a day. Should the pleura be involved in the attack, have recourse to *Bryonia*. Should the lungs be affected, which may be known by the presence of râles within the treachea and bronchial tubes, give *Aconite* 1 and *Phosphorus* tincture, in alternation. Use the phosphorus in three or five-drop doses, according to the urgency of

the symptoms; or now and then omit the aconite, and use the bryonia in its stead—at the same time using the arnica-lotion externally. *Arsenicum* may also prove of value in these associated states. Use the third dilution in five or eight-drop doses.

Wet Packing.—Occasionally we meet with cases of pleurodynia which become chronic. I have known such cases, where the disease has remained for weeks without the least improvement for the better being manifested. To all such I would strongly recommend the application of the wet packing to the body of the animal. For instructions as to the proper mode of applying the wet packing, see the article "Wet Packing" further on.

Poisoning.

Diagnosis.—An animal may be poisoned either by the poison being introduced into the body, or by the poison simply coming in contact with an external sore or abrasion. If an animal suddenly shows signs of sickness, without any positive or known cause, or if several animals are attacked together by the same symptoms, we may infer that the animal is poisoned. The poison may sometimes be discovered in the evacuations or among the feed. *Acrid* or *corrosive* poisons in the stomach develop the following symptoms: violent pain in the stomach and bowels, anxiety, shudderings, violent thirst, frequent eructations, gagging, vomiting of the ingesta, diarrhœa with tenesmus, trembling of the limbs, convulsions, cold sweat, vertigo, etc. Inflammation and gangrene soon supervene. *Narcotic* poisons, which are generally from the vegetable kingdom, exhibit, with slight variation, the following symptoms: Intoxication,

dulness of the head, vertigo, staggering, restlessness, contortion of the eyes, violent and involuntary motions of the limbs and of the whole body, retching and vomiting; and finally complete loss of sense, cold sweats, rattling breathing, etc., lastly apoplexy. External poisoning may take place by means of bites of poisonous animals, or contact of the poison with abraded surfaces. Such poisoning may take place by the bite of serpents, the sting of poisonous insects, contact with the poisonous virus of hydrophobia, etc. If an animal is bit by a poisonous serpent, it experiences at once a violent pain, the parts round the bite, and the whole limb swell up, after which the swelling disappears, and a dropsical swelling takes its place, the part becomes cold and the mobility of the part is destroyed. We have moreover fever, anxiety, dispiritedness, cold sweat, labored breathing, retching, vomiting, vertigo, convulsions, sunken eyes. If animals are stung by a whole swarm of bees, local inflammation may ensue, and the animal may be killed. In most diseased animals a virus becomes developed which affects healthy animals more or less; hence it is well, to separate the sick and the sound animals as soon as possible. The virus of the sick animal may be communicated by the saliva, by inhalation or by contact with the pus of sores. Among such infectious diseases we distinguish: venereal diseases, soie, nasal gleet, distemper, laminitis, measles, malandres, stomacace, anthrax, smallpox, mange, vesicular epizootic, glanders, farcy, dysentery, tinea, hydrophobia.

Causes.—The poison may be mixed up with the feed either by carelessness or design. Many a useful domestic animal has been killed by arsenic that had been

placed somewhere for the purpose of killing rats, mice, flies, etc. Hogs are frequently poisoned by pepper which happens to be mixed in the soup that had been prepared for these animals. Some kinds of food may acquire poisonous properties by getting heated, or by fermenting, etc.

Treatment.—As soon as we suspect that an animal has been poisoned, we must take speedy measures to remove the poison from the body, and to neutralise, what cannot be removed. If corrosive poisons have got into the stomach, emetics should be administered. In older ruminating animals vomiting is excited with more difficulty than in calves and lambs. An excellent emetic is tepid water which is poured down the throat by holding the head up; at the same time, tickle the animal's throat with a feather until retching ensues. After vomiting, allow the animal some rest; but as soon as the animal begins to gag again, and becomes restless or shows signs of pain administer another portion of tepid water, and tickle with the feather. If no vomiting ensues, mix half a tablespoonful of snuff with chewed bread, and place it on the back part of the tongue, after which vomiting will soon ensue; let this be followed by the administration of tepid water. The next and best remedy is thick soap-water, if the pains do not abate, and the animal shows a violent urging to evacuate the rectum and bladder. This kind of soap-water may also be given in the shape of injections. In the case of *narcotic* poisons resort to the same means of exciting vomiting. The tepid water may be mixed with vinegar, and may be introduced by the mouth and rectum. Black coffee is an excellent antidote to narcotic poisons. In

the case of bites of poisonous serpents tie a bandage tightly round the part close above the wound, to prevent the poison from being absorbed by the circulation. At the same time apply heat at a distance, such as: a red-hot iron, hot coals, a burning cigar, etc. Hold the heated body as near the wound as possible, and, as soon as the heat abates, use another heated body in the place. Continue this proceeding until the symptoms of poisoning abate. Wipe off carefully whatever is discharged from the wound. If the symptoms break out again, repeat this proceeding. Administer salt-water, and, if the symptoms get worse, brandy in teaspoonful doses every few seconds. If the part swells, and retching, vertigo, etc., set in, give *Arsenicum* one dose an hour, and, if this does not help, *Belladonna*. If after-symptoms remain, *Acidum phosphori.* and *Mercurius vivus*. If the hands, especially abrasions or sores, have become touched by pus or virus from infected animals, expose the wound for some minutes to as high a degree of heat as can be borne, and afterwards wash the parts well with warm soap and water.

Prolapsus of the rectum.

Diagnosis.—This trouble sometimes sets in in consequence of violent bloating of the bowels, obstinate constipation, painful diarrhœa, and sometimes without any of these conditions being present. The lower extremity of the rectum protrudes from the anus in an inverted condition. When inflamed, the rectum looks dark-red, and a violent urging takes place.

Causes.—Violent pressing upon the rectum during the aforesaid conditions, with relaxation of the muscles.

Treatment.—The hind quarters of the animal are raised, and the rectum is placed back with the hand, which is to be properly oiled for this purpose. In the case of bloating or constipation give *Magnesia muriatica.* If diarrhœa is present, *Alumina;* if the falling occurs spontaneously, or if the rectum is inflamed, give *Belladonna* and *Mercurius vivus* or *Aconite*, and *Arsenicum* in alternation. Injections of *Arnica-lotion*, especially when the rectum has been injured, are of great use. Repeat the dose every six hours.

Putrescence of the Penis.

Diagnosis.—The penis which is hanging out, putrifies piece by piece, and falls off; the urine drops out, and is fetid and acrid.

Causes.—Impurity of the fluids.

Treatment—Give a few doses of *Sulphur*, afterwards alternate doses of *Secale* and *Arsenicum* lastly *Thuja.*

Spermatorrhœa, flow of Semen.

Diagnosis.—Stallions may lose the spermatic fluid spontaneously, which causes emaciation and may lead to death.

Causes.—Excessive sexual gratifications.

Treatment.—*China*, *Sepia*, and *Sulphur*, a few doses of each remedy daily. The organs should not be exercised.

Quincy, Laryngitis.

Diagnosis.—An inflammation of the throat is dangerous in all cases. The breathing is short, quick, rattling, and laborious; the mouth is hot and dry, frequently full of mucus, and the tongue is sometimes

swollen. The outer neck is swollen and painful. In order to ease the breathing, the head is kept straight and stretched forwards; swallowing is difficult, and drinks return partially by the nose. In cattle, and still more in hogs, quincy partakes of the character of glanders; swellings, gangrenous tumors and spots being observed on the neck and hind-quarters. In such a case a whole herd is sometimes attacked. (See Glanders.)

Causes.—Cold contracted by exposure to damp and cold air, or by drinking cold water. Sudden change in weather; want of drinking water in hot weather; violent chasing and driving; the disease is sometimes epidemic.

Treatment.—*Aconite*, one dose every fifteen minutes, for three hours; afterwards *Spongia*. If the breathing remains labored, and the neck swollen, give *Hepar sulphuris* and *Bryonia*, and, if the head be stopped up, with wild, staring, and sparkling eyes, and the liquids return by the nose, give *Belladonna*—Give *Aconite* and *Arnica* if the swelling is caused by injury. This disease runs a rapid course, and, on this account, requires speedy treatment. Homœopathy cures the disease very speedily. If the dose is not specified, give six drops every three hours.

Beside the medical treatment, Haycock recommends the application of hot bran-poultices to the swollen parts. The application of poultices dipped in hot water has the same effect, and may be used beneficially as a change from the poultices. They may be continued at short intervals, for an hour or so at a time, while the poultices may be renewed every six or eight hours.

If the patient be vigorous, or the affection be highly

inflammatory, the application of the cold water bandage will prove of great value; but, if debility exist, and typhoid symptoms be present, its application would be more likely to prove injurious than otherwise. The proper mode of applying the throat-bandage is as follows: Procure a linen bandage of the ordinary width (four or five inches) and four or five yards in length, and also a woolen bandage of the same length and width. Immerse the linen bandage in cold water, then sponge the neck of the patient freely with water. Wring the linen bandage to force out the loose water, and fold it carefully round the neck at its junction with the head of the animal, and upon this fold the dry woolen bandage, and secure the same either with stitches or with strings attached to the end of the bandage. Should one application of the bandage not prove efficient, which it seldom does, let it be repeated every four or six hours until the desired result is accomplished.

Ranula.

Diagnosis.—On the hard palate of young horses, in the neigbourhood of the incisor teeth, a painful swelling is sometimes perceived, which impedes the process of chewing. In some cases the pharynx is inflamed; the horse dribbles a good deal, and is unable either to eat or drink.

Causes.—Over-heating or a cold, especially while teething.

Treatment.—Ranula is speedily removed by *Mercurius vivus*. If symptoms of inflammation be perceived, and the tumor extends downwards in the throat, *Mercurius* may be preceded by a few doses of *Aconite*.

Rat's Tail.

Diagnosis.—This is the stem of the tail without the hair, or only a tuft of hair being left at the end of the tail. The stem of the tail is generally covered with a scurfy substance which causes an itching, and the horse rubs himself continually until the hairs are all rubbed off.

Causes.—The affection is either hereditary, or the eruption is owing to acrid humors.

Treatment.—*Spiritus sulphuratus* and *Rhus toxicodendron* are excellent remedies. If the eruption be humid and itching, give *Graphites* for some weeks and afterwards *Mercurius vivus;* and if no such eruption exists, give *Scabiesinum* and afterwards *Sulphur.* Frequent washing should not be omitted. Of the selected remedy give one dose daily.

Restlessness during Milking.

Diagnosis.—Young cows, when milked, sometimes move their legs to and fro, and kick. On examining the udder, we discover cracks in the teats, and the udder is somewhat swollen or inflamed. The pain, or sometimes the tickling, experienced in these parts, causes the restlessness.

Treatment.—Attach the cow during the milking by tying a strap round the thigh, above the knee. Give *Sulphur* for the cracks in the teats; *Phosphorus* and *Belladonna* for tension and sensitiveness of the udder; and *Camphora* when the udder seems sound.

Rheumatism.

Diagnosis.—This is a painful condition, with tension and lameness of the affected part. We distinguish acute and chronic rheumatism. The former is generally accompanied with fever, and the part is more or less swollen, painful and hot. It is generally shifting, but may become seated and chronic. This form of rheumatism is without fever, more continuous and obstinate; the affected parts are painful, but less warm and rigid than in the acute variety. Every part of the body is liable to this disease, but more particularly the outer parts, joints, etc., which become lame. (Compare "*Lameness of the Shoulder*," "*Limping*," "*Otalgia*," etc.)

Causes.—Rheumatism is easily excited by wet and changeable weather, especially in the spring and fall; animals that have a peculiar predisposition for this disease, are most liable to be attacked by it after the least exposure.

Treatment.—*Aconite* and *Bryonia*, in alternation, are the best remedies, especially if the affected parts are hot, swollen and rigid, or the feet are lame. If feverish chills still continue after a few doses of *Aconite*, give *Arsenicum*. Chronic rheumatism is more obstinate than acute. In the former, commence the treatment with a few doses of *Sulphur*, one daily, and afterwards give alternately *Aconite* and *Nux vomica*. If possible, wrap cotton or woolen rugs round the affected parts. Repeat the dose every six hours, unless otherwise indicated.

Rickets

Diagnosis.—Dogs are sometimes affected by this disease. The animal has a voracious appetite, and nevertheless is emaciated and feeble. The articular extremities swell, the back becomes curved and the dog looks crippled.

Causes.—Internal taint, excessive use of sour milk and bad feed.

Treatment.—Give nourishing but easily-digested food, and take good care of the animal; give a few doses of *Sulphur*, after which give *Acidum phosphori*, *Ammonium carbonicum*, *Rhus toxicodendron* and *China*. In inveterate cases a cure can scarcely be expected. A dose should be given daily.

Ring-bone.

Diagnosis.—An elevation near fetlock joint, which is frequently accompanied by lameness. If the osseous swelling is on both sides of the joint, we call it ring-bone. Generally only one foot is attacked, but sometimes two, and least frequently all four.

Causes.—Exertion, false step, etc., weakness of the bone, and relaxed fibre, are sometimes the first cause of the disease, which may also be hereditary.

Treatment.—In the commencement, wash the swelling for some weeks with *Arnica-lotion*, and give every day two doses of *Rhus toxicod.*, which removes the lameness. If a swelling remains, give *Acidum phosphori.*, *Calcarea carbonica*, *Silicea*, *Mercurius solubilis*, *Lycopodium* and *Iodium*, in the order here indicated. The cure is not always complete. Give one dose a day, and continue the same remedy for about a fortnight.

Ring-hoof

Diagnosis.—The sides of the hoof are flat; the sole, instead of being hollowed out, is curved outwards, round, elevated, projecting beyond the sides of the hoof, and marked as with rings.

Causes.—The trouble may be congenital, but may likewise be induced by bad shoeing and compression of the hoof.

Treatment.—The shoeing should be renewed quite frequently; the sides of the hoof being pared, and sole properly rasped out. The shoe should have high toes, and should be broad and rather hollow, so as to cover the sole, and yet prevent the latter from either touching the shoe or the ground.

Rot of Sheep.

Diagnosis.—The animal is weak and staggers, coughs frequently, emits a hoarse and feeble sound, looks sad, has bloated eye-lids, and the eyes look pale and discharge tears. On the upper part of the neck a soft and painless tumor develops itself. The skin becomes pale, the fleece loses its lustre, and the wool either falls out of itself or can easily be pulled out. The animal becomes weaker and weaker, the back part of the body swells as if dropsical, diarrhœa sets in and the animal dies of prostration. The disease generally attacks single sheep, but sometimes whole flocks are destroyed by it.

Causes.—Marshy pastures, wet seasons; spoiled, musty hay and straw, when given as feed; putrid water to drink; lying in the open air, in damp and cold weather.

Treatment.—The aforesaid causes of exposure should

be avoided; in wet seasons especially, sheep should only be driven to elevated pasture-grounds; they should be fed on good straw and hay, and should have good fresh water to drink. In the commencement of the disease, it may be cured by *China* and *Arsenicum*, and giving good feed consisting of grains, good hay and frequent licking of salt. If the animals are already prostrate and emaciated, a cure is seldom effected, although *China*, *Arsenicum*, *Acidum muriaticum* and *Lycopodium* may still prove useful. Repeat the dose every four hours.

Rot of Swine.

Diagnosis.—It is accompanied by loss of appetite, lassitude, etc. The bristles become loose, can easily be pulled out, and at their lower extremities they look red and bleeding. If no assistance is afforded, the disease increases, hind-quarters become lame, fever and thirst set in, and vesicles break out on the tongue; diarrhœa sets in, and the disease may terminate in gangrene and death.

Causes.—Damp and close sties; spoiled food; infection and constitutional derangement.

Treatment.—*Aconite*, *Cocculus*, *Rhus toxicodendron* and *Sulphur* are useful remedies, and should be used with substantial, good food, daily washing or bathing in cold water, and the sties should be kept clean. *China* should be given, if the hog is very feeble. The animals should be well cared for. Repeat the dose twice a day.

Rot of the Tail.

Diagnosis.—A disease of cattle affecting the lower end of the root of the tail. At first the animal shows signs

of pain by frequently moving the tail to and fro, and looking at it every now and then. After a while the pain seems to abate, and the tail seems to hang down between the hind-legs paralysed. On feeling the tail, a soft spot is noticed at the end of it, which becomes ulcerated, and which destroys the ligaments and vertebræ of the tail so completely that the tail falls off. There are cases where no ulceration is perceived, and where the tail is nevertheless hanging down as above until it sloughs off, partially or totally destroyed by gangrene.

Causes.—Scanty feed, want of cleanliness, damp and dirty stables, the tail being constantly covered with manure and urine; exposure to cold and wet weather.

Treatment.—As soon as the affection is perceived, it is well to open the affected part lengthwise with the knife, to squeeze out the ichor, to wash out the wound well with salt water, dress it with flax, and to repeat this proceeding several times a day. At the same time, give internally *Arsenicum*, *Mercurius vivus* and *Asa-fœdita*. If the larger part of the tail has been invaded by the disease: if symptoms of gangrene have set in, or the bones of the tail have become destroyed, we put a ligature round the tail above the diseased part, and cut that part below the ligature off; to the wound apply *Arnica-lotion*. Good feed and a dry stable are necessary to the cure. Repeat the dose every six hours.

Rubeola.

Diagnosis.—This disease attacks swine. The animal shows signs of fever, coughs, eats less, and vomits.

The eyes become red; red spots break out on the parts which are not much covered with bristles, such as the snout, the parts around the eyes, the abdomen, and the inner sides of the thighs; these spots gradually become covered with scurfs, which fall off after a while.

Causes.—Contagion; the sick animals have to be separated from the healthy ones.

Treatment.—*Aconite*, *Pulsatilla*, and *Sulphur* facilitates the cure of this malady, which is not dangerous. It is important to separate the healthy and the diseased animals; dry, warm, but neither close nor sultry, stables should be provided; the drinks may be properly mixed with meal.

Running Thrush.

Diagnosis.—According to Blaine, this complaint "consists of a diseased action of the sensible frog, whereby, instead of secreting horn, it produces pus, which escapes out between the cleft of the horny frog. It is very improperly considered by many as a matter of trifling import, but a little experience only in the diseases of the feet will show that it is by no means so harmless as supposed. Still more erroneous is it to assert that thrushes do good by drawing of humors, or that there can be any danger in stopping them. On the contrary, there probably never was a harmless thrush, or one that could exist long without doing some injury, by laying the foundation for contraction of the foot in which it existed, by the inflammation and heat excited in the parts around."

Causes.—Allowing the horse to stand in his own dung

and urine; the hind-feet are, on this account, more liable than the fore-feet.

Treatment.—*Spiritus sulphuratus* is a principal remedy; *Acidum phosphoricum* is likewise useful. Wash the sore once a day with cold water, place the horse in a clean box, and sprinkle pulverised charcoal upon the sore. If ulceration has set in, use *Squilla* and *Sulphur*. By the timely alternate use of *Squilla* and *Arsenicum* the development of the ulcerative process can be prevented. If the breaking of the abscess cannot be prevented, it is well to facilitate the cure by lancing the abscess. Repeat the dose every six hours.

Rutting, Sexual Instinct.

Diagnosis.—Every body knows when animals are ruttish; if the instinct is not sufficiently active, thereby preventing the propagation of the species, we have to promote it by treatment.

Causes.—Bad or deficient feed; local diseases.

Treatment.—*Platina* excites the sexual instinct, also *Lycopodium*, especially in the case of cattle or hogs. *Cantharis* suppresses it, *Platina*, *Camphora* and *Cannabis* cure an excessive sexual desire, which prevents conception. Repeat the dose every other day.

SAND-CRACK, *see Cracked Hoof.*

Satyriasis.

Diagnosis.—Mares are more frequently attacked by this disease than stallions; in the latter it is a species of frenzy. The appetite is more or less impaired.

Causes.—Want of sexual gratifications, especially when the desire was very great.

Treatment.—*Platina*, *Pulsatilla*, *Sabina*, *Cantharis*, and *Cocculus*, for mares. *Cantharis*, *Nux vomica* and *Opium*, for stallions. If mares refuse to admit the stallion, give *Platina*, *Cannabis*, and *Camphora*. If stallions are attacked by the disease, sexual gratifications or castration are of no use. Mares are more useful while with young. Of the selected remedy give one dose a day.

Scarlatina.*

"Scarlatina is a disease which, I believe, was first treated upon by Mr. Percival. The account which he wrote is contained in *The Veterinarian* for 1834, and he also again mentions it in the second volume of his work entitled *Hippopathology*, where the reader will find it classed amongst those diseases which are peculiar to the air passages. His description, however, is very incomplete, and, as a matter of course, very unsatisfactory. Since attention was directed to the disease in question, a few individuals have occasionally furnished cases of it to *The Veterinarian*, but it cannot by any means be said to have received a tithe of that attention from the profession which its importance demands.

The first case which occurred in my own practice was in the year 1847, which case I wrote out, along with others of a similar kind, and sent them to the above named journal, in which they were published in the volume for 1850. These cases, together with the remarks in connection with them, constitute the most complete history of the disease up to that period.

* Haycock's Manual.

Description, etc.—Scarlet fever, with reference to the human being, "is, for the convenience of description," says Watson,* "and for the better direction of the treatment," generally by authors considered under three varieties; viz., *Scarlatina simplex*, in which there is a florid rash, and a little or no affection of the throat; *Scarlatina anginosa*, in which both the skin and the throat are decidedly implicated; *Scarlatina maligna*, in which the stress of the disease falls upon the throat. The epithet *maligna*, or malignant, marks truly the fearful character of this form of the malady. This division, so far as my own experience has hitherto gone, is, upon the whole, very appropriate to the disease in the horse, particularly the varieties denominated *simplex* and *anginosa*; the latter variety, in fact, may be said to be a mild form of the scarlatina maligna; for, as Dr. Copland remarks, the anginosa form passes into the maligna by "insensible gradations."

Simple Scarlatina.—This form of the disease usually appears in association with epidemic catarrh; it seldom, or perhaps never, manifests itself simultaneously with epidemic catarrh, but usually on the third, fourth, and even as late as the sixth day after the commencement of the former. The animal affected with catarrh will, perhaps, be fed and left at the usual hour at night in what may be considered a fair way of recovery, but when the attendant enters the stable on the morning following, the patient may be found affected in a very peculiar manner; the hair about the neck, the fore and hind limbs, will be elevated in blotches, while the limbs them-

* See Watson's Lectures on the Principles and Practice of Physic

selves will be found in a swollen condition. The blotchy elevations, generally speaking, are not large, but they are exceedingly characteristic of the malady. If the hand be pressed lightly over them, scarcely any corresponding elevations can be felt upon the skin beneath. The mucous membrane of the nose will have upon it a few scarlet spots of variable size; the pulse, in some instances, will be increased in action considerably, while in others, even when the disease appears more severe, not so much. If the epidemic catarrh, or the disease under which the patient labours, be attended with soreness of the throat, the soreness of the throat may become greatly increased, or it may not. Sometimes the blotchy elevations are confined to the hind limbs, and the scarlet spots to the membrane of one nostril, while in other cases all these symptoms are present, but in such a very mild degree as not to excite the attention of any one but a closely-observing practitioner. If at this stage of the disease the animal be judiciously treated, and the stable be dry and comfortable, the whole may pass off in a few days without any further mischief ensuing; but if the treatment be improper, the stable cold and damp, and the animal otherwise unfavourably circumstanced, it is probable that the disease will become more virulent, and either assume the *malignant form*, or pass into what is called "Purpura Hæmorrhagica," and the life of the animal in either state, become greatly endangered.

Malignant Scarlatina.—This form of the disease may appear either at once in all its virulence, or it may follow upon the milder states above described. The patient for some days may have manifested what is usually considered to be influenza, or epidemic catarrh, the symptoms

of which will, for the most part, consist of sore throat of an obstinate nature, with fever more or less severe, with cough, loss of appetite, discharge of purulent matter from the nostrils, and general debility; when suddenly the whole changes, the limbs begin to swell, which swelling presents either an even surface (occupying the whole of the limbs,) or it appears in lumps, or in masses, which are both large and numerous, also hot, hard, and painful, while those portions of the skin free from such swelling presents the blotchy elevations so common to the simple form of scarlatina. The membrane of the nose becomes also covered with large sized spots of an intense scarlet color, while from the nostrils is discharged a mixture of blood, purulent matter, and serum. At this stage the soreness of the throat becomes excessive, accompanied, of course, with a corresponding degree of difficulty in swallowing; the cough also becomes worse and of a suffocative character. The pulse increases in number, reaching at times ninety or even one hundred beats per minute, and is always of a weak or feeble character. The swollen limbs are excessively tender, and if the patient be left alone he will stand for hours nailed, as it were, to one place, and in one position; it is only, indeed, with the greatest difficulty that it can be made to move at all. As the disease proceeds, or assumes more intensity, large blisters, or vesicles, appear upon the limbs, particularly around the joints; these vesicles burst and discharge a bright amber colored fluid, which is very corrosive in its effects upon the adjoining skin. In other cases again, some extreme portion of the organism, such as the ears, for example, will suddenly present a blanched appearance, the skin of these organs will shrink, and

become hard and dry as though frozen, and in the course of a day or two these blanched portions snap off, leaving exposed a raw surface, which speedily suppurates. The appetite entirely disappears, and the secretions from the bowels, as a matter of course, become checked, and what is denominated *constipation* ensues; the urine also becomes scanty, and is of a thick yellow, or of a brown color. In the course of twenty or twenty-four hours from the commencement (and in many cases even less,) the scarlet spots on the membrane of the nose enlarge and pass into purple colored patches, and these purple patches slough and leave a raw surface, from which is secreted an abundance of purulent matter: at the same time a similar sloughing goes on around the joints where the blisters, or vesicles, first appeared. If the animal goes on favorably the fever will generally abate (in the milder states at least) about the fourth or fifth day from the commencement of the more acute stage, while in the more malignant kinds it is seldom that a change for the better occurs before the seventh or eighth day. In the most severe forms, however, purpura hæmorrhagica supervenes, and the patient becomes an emaciated and loathsome looking object.

Complications.—Scarlet fever sometimes becomes associated with rheumatism, with congestion of the lungs, with a low typhoid state of fever, with typhoid inflammation of the lungs, and with purpura hæmorrhagica.

Prognosis.—If the pulse of the patient falls or becomes reduced in the number of its beats within a given time—if the appetite gradually improves, and the debility disappears—if the swollen limbs gradually reduce in size and the skin becomes cooler, a favourable termination

may be expected; but if the debility becomes more marked—the pulse more irritable, feeble, or indistinct—the limbs more swollen, with other symptoms, such as total loss of appetite, difficulty of breathing, from an insidious typhoid inflammatory action going on within the lungs; and finally, if purpura hæmorrhagica sets in, the prognosis is unfavourable, and the chances are that the patient will die.

Causes.—The disease in question is generally manifested "epidemically, or as an epizooty among horses," during the spring and summer months,* so that its remote causes are difficult to arrive at; its exciting causes, however, appear to depend upon those states of bronchial and laryngeal disease so common during the periods of the year above named. I have known it to supervene upon an attack of strangles, and upon what is designated "influenza." Animals of all ages are subject to its influence. One of the most severe cases I ever had under my care, occurred in a foal three months old. It may be stated, however, as a general fact, that young horses are more liable to the disease than old ones, and that during its prevalence exposure of horses to cold and wet is very likely to induce it.

Contagiousness.—With respect to scarlet fever in the horse being contagious, I, for my part, am of opinion that it is not. I have treated many cases of it, but I never yet treated two cases in the same stable at the same time. The case of the foal, which I have mentioned above, was a most severe one; and during the whole period of its illness (which was a little over three

* This fact, I believe, was first noticed by myself.

weeks) it had at all times free access to its dam, and the foal partook of her milk freely at the commencement, but the mare never exhibited the least disorder of any kind from that time to the present. It had also free access to other horses, and none of them were in the least degree affected.*

My experience in the treatment of this malady has been somewhat extensive. The old treatment I have found utterly inadequate to cure it; in fact, from the very nature of the remedies made use of, and from the peculiar nature of the disease itself, the old treatment must destroy more animals affected with scarlet fever than it can possibly cure. Homœopathic treatment will be found greatly superior; but the treatment from which I have derived the most success, and which I regard as the very best I can possibly recommend, is a judicious

* I have been led to make the above observations from reading a note which is appended to an article in Dr. Copland's Medical Dictionary, where the Doctor says that he has evidence for the following inferences: "First—That scarlatina was originally a disease of the horse; and that it formerly occurred, and has even recently occurred, epidemically, or as an epizooty among horses. Secondly—That it was communicated in comparatively modern times from horses to man. Thirdly—That it may be, and has been, communicated also to the dog;" and further on, he adds, that Mr. Percival has furnished him with an additional amount of evidence in support of the above inferences. Now, with all due deference to the above statements, I can only say that I have furnished up to the present period the most complete history of scarlatina in the horse which is extant—that I have paid, at all times, the most careful attention to its phases and conditions in the above-named animal, and that I never yet became acquainted with one solitary fact which would give the least support to the second and third inferences. See Dr. Copland's Medical Dictionary, article *Skin*.

combination of the homœopathic treatment with the cold water system. I have tried the two systems apart; but I have found that, by judiciously combining them I effect the greatest good in the shortest period of time.

The remedies which I have found of the most value, both alone and in association with hydropathy, are *Aconite*, *Belladonna*, *Cantharis*, *Mercurius*, *Arsenicum*, *Sulphate of iron*, *Nitric acid*, *Bryonia*, *Sulphur*, and *Ruta gravcolens*, as an external application.

Aconite and *Belladonna* I use in the mother tinctures, and in the first and third dilutions; arsenicum and cantharis in the third; mercurius and sulphur of the first and third triturations; bryonia of the first and third dilutions.

Nitric acid I use and dispense as follows: Take a clean glass bottle that will contain about a pint, fill it with cold water, or nearly so, drop into it about five or six drops of the purest nitric acid which can be purchased, shake the acid and the water well together, taste the mixture, and if the operator can do so freely, without it producing any disagreeable effect upon his mouth and lips, it is of sufficient strength—the water, in fact, requires just to be soured and nothing more; and to sour it, more or less of the acid may be required according to the strength of the acid, the palate of the operator must decide, and if the mixture produces a disagreeable effect upon him, it will produce the same effect upon the mouth of the patient.

Sulphate of Iron I prepare as follows: Take of the purified preparation one drachm, and triturate it at least for fifteen or twenty minutes with six or eight drachms

of the best lump sugar; divide the mass into about eight portions, and place one of such portions dry upon the patient's tongue; or, mix it with flour and water, so as to make a paste, and place it upon the tongue.

Ruta graveolens I use as a wash to the sores in the malignant state of the disease, in the proportion of six drachms of the tincture to sixteen ounces of water.

Having thus premised what is necessary respecting the medicines, we will now enter upon a consideration of the symptoms or states of the disease which indicate the use of one or more of the remedies enumerated. The first step to be taken is to have the patient placed under those conditions, in the way of housing and clothing, which are adapted to his condition. Should the disease be of the simple form of scarlatina, all that is necessary to be done, in the majority of such cases, is to have recourse, and keep steadily to the use of *Aconite* one in five-drop doses; the remedy to be repeated twice or thrice daily, according to the urgency of the symptoms. If the fever run high, and the throat be sore, give *Mercurius* in grain doses of the first trituration, in alternation with the *Aconite*, and let them succeed each other at intervals of four, eight, or twelve hours, as may be deemed best. *Belladonna*, on some occasions, is more suitable than mercurius; the symptoms which indicate its preference are great heat of the skin, swelling of the limbs, and excessive soreness of the throat, in which case, belladonna may be used in five-drop doses of the first dilution, in alternation with the *Aconite;* and should an improvement become visible, have recourse to the third dilution of the remedies. But if the case be one of the malignant type and if the poor brute has not already

had its life bled, purged, and blistered out of it, as is too commonly the case, let not a moment of time be lost in applying the wet sheets; and the way to apply them properly and effectually, is to carefully follow the directions which I shall give in detail:—

Wet Packing.—In the first place, procure the following articles of the best quality of their kind; namely, *two pieces of strong coarse linen* or harding wrappers, one piece of which must be seven yards in length, the other three yards in length, and both of them four feet in width; also, *four linen bandages* of the usual width, and each of them six yards in length—or, what would be better, eight linen bandages, each bandage three yards in length;—also, *two pieces of coarse woolen cloth*, very firm, but soft and perfectly pliable in its nature, of the same length and width as the two pieces of harding wrapping; also, *eight woolen bandages*, of the same length as the linen ones; also, *three or four large woolen rugs*, such as horses are usually clothed with in cold weather; also, *a number of strong iron skewers*, a strong *packing needle*, and several yards of thick *string*. Having procured the above articles, (for recollect it is worse than useless not to have them of a sufficient number, size, width, and length,) the second step is to use them properly; and upon this depends entirely the success of the operation. Take the *linen* sheets and the *linen* bandages, and immerse them in a large quantity of clean cold water, (the colder the water the better,) and stir them about in the water, so that the whole may become thoroughly saturated. *Thirdly*, take the large sheet out of the water, roll it up the short way and give it a turn or two for the purpose of forcing out

the loose water which it may contain, and giving this into the hands of an assistant, (of which the operation will require two or three,) he must then strip the patient of all clothing, and freely sponge its body with cold water from the chine to the loins, embracing the sides, and under the abdomen; then take the wet sheet —rolled as it is—lay it upon the patient's back parallel to the spine, and holding firm the loose end, let an assistant roll it firmly round and round the body as tight as possible; then take the longer of the woolen wrappers, (not the woolen horse rugs) and roll it also firmly around the body, and upon the top of the wet sheet, and secure its loose end with two or three of the iron skewers; and upon the top of this again fold a large woolen rug, which make secure where the ends meet with the needle and thick string. In precisely the same manner apply the smaller of the wet sheets to the neck (but here a little difficulty may arise, which will require careful attention; the necks of well bred horses are frequently very thin and spare, and they require in this process to be packed; the best packing is made with a roll of wool, one roll of which is fixed on each side of the neck in the hollow, running parallel with the windpipe), which fold with the lesser woolen sheet, and above it again with a woolen rug, made secure as above described. Then repeat the process upon every one of the limbs, and fold above the wet bandages the dry woolen ones. To complete the operation all that is now required is to spread over the patient the dry woolen rugs; the one placed over the body make secure with a broad surcingle, while the one upon the neck may hang loose, after which close the box

and leave the animal alone for three or four hours, or even more; it may always be known, however, when the cloths have been on long enough, by simply passing the hand under them, and feeling the state of the skin, and if the skin be wet and hot do not disturb them; but if the skin be dry, or about it, and the linen clothes are also dry, or in a *dryish* state, remove the whole at once, and put upon the patient fresh, dry, comfortable clothing; the quantity of such clothing necessary, will of course depend upon the season of the year, and the temperature of the weather. After the cloths are removed I sometimes have the skin rapidly and lightly sponged over with cold water, and then three or four men are set vigorously to work with their bare hands to rub it perfectly dry ere I apply the clean clothing. It is seldom that I find it necessary to apply the wet sheets above once or twice before an improvement becomes rapidly visible, and when once such improvement has set in then assist it with such remedies as may answer best to the phenomena, for it must be borne in mind that the wet sheet is a very weakening agent if applied too frequently. Should the patient be much debilitated, and the sores upon the joints bleed readily and exhibit little or no disposition to heal, give the *Nitric acid mixture* in two ounce doses, two or three times a day, for two or three days in succession, or otherwise alternate it with a *sulphate of iron powder*. If the debility should not be great, and the pulse remain high, give *Aconite* of the third dilution, alternated with *Belladonna* or with *Mercurius*.

Mercurius is indicated when the sores look angry, or

of a fiery aspect, when they bleed readily, and appear to spread more over the skin, or when they run into one another. It is at this stage of the disease that the *Ruta-lotion* is also of value; the sores may be washed with it two or three times a day pretty freely.

Such is the course of treatment which I have found the most successful, and which I believe will answer with others if they but use the various modes with discretion."

Shaking.

Diagnosis.—This disease is peculiar only to sheep, and commences with restlessness and an elevated carriage of the head. As the disease increases, the legs of the animal become straightened, and the gait becomes staggering and awkward, the hind-quarters being dragged along. The patient trembles, grits its teeth, is timorous, liable to start, weak, and grows thin. Many sheep gnaw at their hind-quarters until they are denuded and sore. Lastly diarrhœa and fetid discharge from the nose set in, and the animal dies amidst convulsions.

Causes.—Morbid condition of the spinal marrow; the disease is not contagious, but seems hereditary.

Treatment.—*Acidum sulphuris*, one dose every alternate day, is the best remedy for this disease; *Cocculus* and *Rhus toxicodendron* have been found efficient. The descendants of such animals should never be employed for breeding. The disease generally runs from eight to sixteen weeks.

Spasms.

Diagnosis.—This is a sudden, irregular contraction of the motor muscles. The affected muscle becomes involuntarily, violently and unnaturally convulsed, with painful tension and swelling of the muscular substance. (Compare "*Epilepsy* and *Lock-jaw.*")

Causes.—Morbid action of the nerves, in the affected part.

Treatment.—Give a few doses of *Bryonia*, and afterwards a dose of *Nux vomica* every day. *Belladonna*, *Hyoscyamus*, *Mercurius vivus* and *Cocculus* are likewise useful. *Cocculus* especially for spasm in the legs. The cure is promoted by rubbing the affected part with woolen rugs, or even the whole body, if possible. Repeat the dose every fifteen minutes.

Spasm of the Diaphragm.*

"Spasm of the diaphragm is another extremely rare affection. I do not remember that I ever saw a case of it. 'Our attention,' says Mr. Percival, 'was first called to this disease by the celebrated Nimrod, Mr. Apperley, so long ago as the year 1825.' My friend, Mr. Moore, V. S., of Manchester, has, however, been more fortunate in this respect than I have. The following case of the disease was placed under his care. He took notes of it at the time, and he has kindly furnished me with the facts, which I give to the reader as they were given to me:—

"August 31st, 1850," says Mr. Moore, "I was re-

* From Haycock's Veterinary Manual.

quested, about one o'clock, A. M., to attend upon a mare, the property of Mr. Sidebottom, of Great Ancoat-street, Manchester. The mare is four years of age, and is generally used for saddle and harness purposes, and this morning she was fed as usual, and soon afterwards taken out of the stable, and galloped very severely, and upon returning home she was found to be unwell.

"*Symptoms.*—Pulse sixty-four, small and wiry; respirations thirty-two per minute; the vessels of the eyes are turgid; strong spasmodic irregular action of the diaphragm, from forty-five to fifty per minute; the breath is drawn forcibly in, attended with a snuffing noise at the nostrils, and is expelled as rapidly and without any noise; pulsations are very distinct on each side of the back.

"*Treatment.*—Gave stannum ten drops of the sixth attenuation in two ounces of water. In one hour after giving the stannum, the pulse was forty, full and strong, and the spasm far less powerful: stannum five drops as above.

"Four o'clock, P. M. Pulse thirty, full and strong, attended with now and then a slight pulsation near the lumbar vertebræ: repeat medicine, the same in quantity as before.

"Eighth o'clock, P. M. Pulse thirty-six, and respirations tranquil and normal; all spasmodic jerking or pulsation over the lumbar region gone. *Discharged cured.*"

The remedies I should say the most likely to prove beneficial to cases of this nature, are *Stannum*, *Aconite*, and *Nux vomica.*

According to Jahr, *Stannum* causes, amongst others, the following symptoms: Chest—"Fit of asthma; short

breathing and anguish; asthma and want of breath when performing the least motion; jactitation of the muscles of the upper part of the chest."

"*Back, etc.*—Twitching jerking of the muscles of the last false ribs; pulse quick and small."

Such are the principal objective symptoms which answer to the affection; others of a subjective nature might be added."

Spasm of the Larynx.*

"It is somewhat surprising that an affection possessing the importance of the one which I shall now treat upon, should, up to this hour, be without place, and in truth without mention, in our systematic works professing to treat upon veterinary medicine and veterinary pathology; yet such is the truth—a truth which becomes the more surprising when we find that the omission cannot be said to arise from the want of data whereon to assign it a place in our literature; for the volumes of *The Veterinarian*, and the *Veterinary Record*, published during the last ten years to my certain knowledge, abound with facts attesting the actuality of the disease. This affection may with propriety be regarded as one of those sequences greatly to be dreaded during the acute stage of laryngitis and strangles. It may arise from inflammation, or irritation going on within, or directly acting upon the larynx itself; or from a distant source of irritation acting upon the organ from an impression conveyed in a reflex manner by one or more of the numerous nerves which terminate within the tissues of the laryngeal apparatus.

* Haycock's Manual.

Symptoms.—The symptoms of spasm of the larynx are of so evident a nature as to warrant me in saying that they declare themselves, and that too in the most decisive manner. Sometimes the disease manifests itself in a moment, as it were, with a most terrible severity—the animal begins to gasp for breath—the eyeballs protrude and present a wild, haggard appearance—the nostrils are dilated to their utmost extent—the nose is protruded, and the neck is carried in a line with the back—the flanks heave with most excessive violence, and every time the poor beast inspires air, a sound is emitted which will vary in its character and intensity according to the vigor of the spasm. Sometimes it will be loud and shrill, sometimes a kind of scream, at other times like the loud twang from a trumpet—or it may be rasping, snoring, or like that elicited when sawing wood. As the disease proceeds, the general symptoms become more violent—the mucous membrane of the mouth assumes a purple color—the animal becomes partially unconscious—he rushes wildly from place to place, as though seeking in vain for aid—the body becomes suffused with a steaming perspiration; at last the spasm is either suddenly relieved, which is very rarely the case, or he falls heavily to the ground, struggles for a few moments, and then dies completely asphyxiated. If the disease supervene upon an inflammatory attack of the organ, the symptoms in such cases, for a short period at least, will most probably be of a milder character. A partial spasm of the muscles will manifest itself, which may exhibit just such a degree of violence as to excite alarm and nothing more, when the whole will gradually subside and leave the patient in a very tranquil state; in a short

time, however, may be in two or three hours, or more or less according to circumstances, it again commences and continues for a longer period, or it goes on increasing in violence, until either relief is afforded surgically or the patient dies.

Causes.—The causes are numerous and varied; it may arise from laryngitis;* from strangles;† from the presence of pedunculous tumors growing at the base of the tongue, and its mass occasionally going in immediate contact with, or falling into the larynx;‡ from the formation of an abscess in immediate contact with the larynx;§ from the presence of an abscess at the root of the trachea;‖ from choking; from the formation of an abscess within the hollow space at the junction of the head with the neck, (I have treated many cases of this kind, both in young foals and horses of three or four years old,) and in some instances the disease is manifested without any detectable cause.¶

Treatment.—If the spasm be violent, and the life of the animal in great danger, the first, and indeed the only step we can take to afford instant relief, is the performance of *Tracheotomy*, and the insertion and firmly securing of a tube within the windpipe. The next step is to ascertain the cause, unless it be of that nature as to be palpably evident to the eye, such as the presence of a large, hard, inflammatory swelling in the hollow of the neck, or the presence of strangles or of laryngitis, in

* See The Veterinarian for 1844, p. 29.
† Ibid for 1843, p. 131.
‡ Ibid for 1843, p. 68.
§ Ibid for 1845, p. 557.
‖ Ibid for 1849, p. 392, and for 1850, p. 423.
¶ See Veterinary Record, vol. vi., p. 42.

which cases its origin is at once perceived; but where the disease has manifested itself, independent of such palpable evidence, we must, with the aid of a ball iron, carefully examine the larynx itself for tumors or the lodgement of foreign bodies within and around the laryngeal opening, and if such be found, their removal, as a matter of course, is absolutely necessary. If the affection proceeds from *Laryngitis*, *Strangles*, *Abscesses of the Neck*, etc., for the proper treatment to pursue see the various articles in this volume on the diseases in question. If, however, it arise without any apparent cause, *Bromine* is the remedy; use it in five-drop doses of the first dilution."

Spavin.

Diagnosis—Inflammation and exudation of the bony substance from an osseous tumour in the region of the hock; or accumulation of lymphatic humours in the same region. At first the animal seems to be afraid of freely using one or the other hind legs, and a little lameness is perceived at the commencement of moving. Afterwards, when returning to the stable after an exertion, the horse stands upon the toe of the affected limb, limps considerably on turning about and when commencing to walk; after walking a little the lameness disappears, and is only perceived again after the horse has been standing a few minutes. At this period we begin to notice a swelling in the region of the hock, accompanied by increasing lameness or complete stiffness; this swelling is either hard and bony, or soft. We distinguish several varieties of spavin, according to

locality and character. Spavin may be a soft swelling of the femoral vein running along the inner surface of the hock; or a hot, painful and laming swelling, extending from the posterior border of the hock downwards, and best seen on looking laterally; afterwards this swelling becomes hard, insensible, bony, and the animal only limps, when obliged to make an exertion; or the swelling extends along the inner surface of the hock, oblong, a little broader below than above, bony, sometimes involving the whole joint, and occasioning more or less limping; or a soft, round swelling over the whole inner surface of the hock, at first not impeding the horse's gait, but afterwards becoming indurated and causing rigidity of the hock, and lameness; or a hard, osseous swelling at the upper and inner side of the femur, causing a lameness, which depends more or less upon the extent to which the ligaments of the hock are involved in the swelling; or the muscles of the hind quarters are not visibly affected, the horse does not limp, but simply raises one or the other limb, or both, (for one limb alone is seldom affected,) unnaturally high, and puts them down again with a spasmodic twitching movement.

Causes.—The affection is often hereditary, or depending upon a peculiar disposition for it, which may be excited into disease by over-exertion, over-heating, a false step, straining against a heavily loaded wagon, blows or kicks upon the hock; local swelling of the femoral vein, straining of the ligaments with accumulation of synovial fluid; deficient action of the muscles of the hind-quarters. Horses with high legs, between the ages of three and seven years, are most liable to spavin.

Treatment.—If these various forms of spavin are caused

by external injuries, give *Arnica* internally, and apply *Arnica-lotion* externally. If the swelling is very painful, give *Pulsatilla*. If there is no perceptible improvement after awhile, give alternate doses of *Rhus tox* and *Mercurius vivus*. If lameness remains, give *Sulphur*, and afterwards alternate doses of *Rhus tox.* and *Mercurius vivus*. If the lameness is far advanced, give *Mercurius solubilis*, and if this should not be sufficient, give alternate doses of *Sulphur*, *Rhus tox.* and *Sepia;* these remedies will be found sufficient to remove the lameness. For tubercular swelling give *Ledum*, and if the swellings are covered with scurf, give *Silicea* and *Thuya*. Of these remedies a dose may be given twice a day.

The lameness arising from spavin is sometimes difficult to recognise by persons who are not familiar with the disease; for, as long as the horse is kept in motion, the lameness is not felt by the animal; hence those who intend to buy a horse of a jockey, may do well to heed the following advice. In order to find out whether the horse is affected with spavin, place him on level ground, with the hind-legs on the same line, raise the tail with one hand, step a few feet sideways behind the horse; look attentively at the suspected joint, especially at the inner side, where the hock and tibia come together, and observe the shape of these parts. Then observe the hock of the other leg in the same manner, and, if we discover at either leg an elevation which is not seen at the other, the horse is affected with spavin. If such a horse, after remaining quiet for awhile, is walked about, we shall find that it has an uneasy, twitching gait.

Specks on the cornea.

Diagnosis.—The cornea exhibits opaque spots of various sizes. The eye sometimes secretes tears, and is more or less closed.

Causes.—Sequel of ophthalmia, injuries, etc.

Treatment.—*Cannabis* is the principal remedy, even in chronic cases; *Belladonna*, if there is no secretion of tears; *Sarsaparilla*, if there are red streaks in the eye; use *Arnica-lotion* in case of injury. Repeat the dose twice daily.

Splint.

According to Youatt, the splint is invariably found on the outside of the small bones, and generally on the inside of the leg. The cause of their almost exclusive appearance on the inside of the leg admits of easy explanation. The inner splint-bone is placed nearer the centre of the weight of the body than the other, and, from the nature of its connection with the bones of the knee, actually receives more of the weight of the body than does the outer bone, and therefore is more liable to injury and inflammation, and this consequent deposit of bony matter. The inner bone receives the whole of the weight transmitted to the small bone of the knee. It is the only support of that bone. A portion only of one of the bones rests on the outer splint-bone, and the weight is shared between it and the shank. In addition to this, there is the absurd practice of many smiths of raising the outer heel of the shoe to an extravagant degree, which throws still more of the weight of the horse on the inner splint-bone. Bony tumors occasionally appear on other parts of

the shank bone, being the consequence of violent blows or other external injuries, and are commonly called splints.

When the splint of either sort is forming, the horse is frequently lame, for the periosteum or membrane covering the bone is painfully stretched; but when this membrane has accommodated itself to the tumor that extended it, the lameness subsides and altogether disappears, unless the splint be in a situation in which it interferes with the action of some tendon or ligament, or in the immediate neighborhood of a joint. Pressing upon a ligament or tendon, it may cause inflammation of those substances; or, being close to a joint, it may interfere with its action. Splints, then, do not necessarily cause unsoundness, and may not lessen in the slightest degree the action or value of the horse. All depends on their situation.

The inside of the leg, immediately under the knee, is subject to injury from what is termed the *speedy cut*. A horse with high action and in the fast trot, violently strikes this part, either with his hoof or the edge of the shoe. Sometimes bony enlargement is the result: at others, great heat and tenderness; and the pain from the blow seems occasionally to be so great, that the horse drops as if shot. The remedy is to take care that no part of the shoe projects beyond the foot; and to let the inner side of the shoe, have but one nail, near the toe.

Treatment.—The best remedies for such tumors are *Arnica* and *Aconite*. If the tumors are caused by external injuries, such as blows, kicks, &c., prepare a solution of from 60 to 100 drops of the tincture of *Arnica* in a pint of water, and apply to the injured part a compress soaked with this solution, renewing it every now and then, as often as the linen becomes dry; at the same

time *Arnica* may be given internally, two or three drops of the tincture every three or four hours. If there should be much inflammation in the tumor, it is best to substitute *Aconite* for *Arnica*. Apply *Aconite* externally, ten drops of the tincture of the root in half a pint of water, with which a linen compress is to be soaked, and two drops of the tincture in half a pint of water internally, one-fourth part of which is to be given every two or three hours, until the part is healed, and the tumor removed.

Splenitis, inflammation of the spleen.

Diagnosis.—After some weakness, fever and a complete loss of appetite set in; the pulse is hard, full and hurried; the breathing quick, looks staring; the tongue coated brown or bloody, in consequence of the blood being driven backwards as it were from the stomach to the mouth; the animal frequently looks at the affected side, and shows pain whenever this side is touched.

Causes.—Injuries received in the region of the spleen; a sudden cold; cold drinking, when overheated.

Treatment.—*Aconite* and *Bryonia* alternately, and after a few doses, *Arsenicum*. If caused by injuries, give *Aconite* and *Arnica* in alternation. *Aconite* and *Nux vomica* alternately, if the region of the spleen is very sensitive to pressure. Repeat the dose every two hours.

Sprains, dislocations.

Diagnosis.—If a bone is displaced from a joint, we term this a dislocation. The joint becomes painful; on comparing the affected joint with that of the other leg, we perceive that the bones of the joint do not properly

articulate, and the limb appears either longer or shorter, or even looks crooked. Very soon the dislocated joint becomes inflamed and swells. If the dislocation is not complete, and the ligaments and tendons have simply been strained, and a swelling and inflammation ensue, we term this a sprain. This is less dangerous than a dislocation, which, in the case of horses and cattle, is not always curable, when the shoulder-joint, the hip-joint and the small of the back are affected. The most frequent dislocations and sprains are: a. *sprain of the coronet-joint;* the patient generally stands upon the toe, and shows much pain when bending or extending the foot; b. *Sprain of the fetlock;* the foot is placed forward and curved, the animal limps and fears to bear its weight upon this foot. In bad cases, when attempting to work, the animal stumbles forward, catching itself upon the toes; c. *Dislocation of the knee-pan;* the limb is rigid and stretched out, is unable to stand upon the leg, and, if compelled to use it, it drags the limb, bearing its weight upon the fetlock-joint, which bends over; d. *Dislocation of the knee-joint*, with tearing of the ligaments; e. *Dislocation of the shoulder-joint*, with tearing of the ligaments; f. *Dislocatian of the scapula and transverse process* which is felt in front of the lower extremity of the scapula as a bony protuberance; g. *Luxation of the head of the femur from the acetabulum;* the limb looks shorter and turned outwards; in a simple sprain the animal drags the affected limb along, stiff and turned to the outside, h. *Dislocation of the small of the back;* the animal is constantly lying down, and, if the animal attempts to raise itself, it tries to steer along with the hind-feet, but is unable to raise the hind-part; if a simple sprain the animal

is unable to budge ; i. *Dislocation of the jaw ;* this accident befals more particularly the canine species ; the animal scratches the head with its feet, the mouth is open, the tongue is stretched out.

Causes.—Dislocations are either occasioned by external injuries on the joint directly, or on the opposite extremity of the bone. At the time when the accident takes place, the bone is generally in an oblique position to the articular cavity. Such accidents may happen from false steps, slipping, sudden jumping up, leaping across ditches, etc., violent efforts when dragging heavy loads, or from carrying them, or pulling a foot out of a morass, sudden turning, or they may be caused by blows, kicks, contusions, etc. Luxations of the jaw take place when fighting dogs bite themselves fast. The ligaments and tendons become either loosened or torn in such accidents; hence they are always accompanied by pain, and followed by swelling and inflammation of the affected joint.

Treatment.—The first thing to be done, if it is a dislocation, is to replace the bone in its place, then to keep it there by appropriate bandages and to restore order among the ligaments and tendons. The sooner this is done the better, for, if inflammation has already set in, the matter is more difficult. If the dislocated extremity is permitted to remain outside of the articular cavity for any length of time, the adjoining parts are pressed upon and the limb begins to dwindle. To replace the articular extremity, proceed as follows. Let some assistants hold the animal. Grasp the dislocated limb with one hand, and with the other examine the direction of the luxation. Let assistants take hold of the part above the luxated joint, but as near to it as possible, and pull on the part

below the luxation in the direction of the muscles, until the head of the bone descends on a line with the particular cavity. Continuing to draw, the head of the bone is then pressed upon until it bounds back into the cavity, and the limb has again its natural shape. It is well to put a bandage round the joint. First apply a compress moistened with *Arnica*, and over this a leather covering all around the joint, which is to be fastened by means of a bandage. *Arnica* may be given internally, and, if the joint should be inflamed, *Aconitum*. If it is a simple sprain, bathe the parts frequently with *Arnica*, or still better with *Aconitum*. A luxation of the patella frequently reduces itself. In order to reduce the jaw-bone of a dog, one assistant holds the dog by the four legs, and another holds the head, tie a cloth round the lower jaw, insert a stick of wood four inches long and three quarters of an inch thick between the jaws, grasp the stick and the anterior jaw with the left hand, and, extending the luxated posterior jaw forward with the right hand, press it against the stick of wood until it glides back again into its socket. Apply compresses of *Arnica-lotion*. In neglected sprains give internally *Rhus toxicodendron*. *Ruta* is a good remedy for luxations of the fetlock and coronet-joint, and *Ledum* for luxations of the shoulder-joint. *Sulphur* may be given as an intermediate remedy. In bad luxations, if animals can be used for the table, it is best to kill them.

Stomacace.

Diagnosis.—Among cattle, sheep and swine, this disease is generally an accompaniment of grease. At first we notice fever, sadness, loss of appetite, heat of

the head and redness in the mouth. In a few days blisters break out on the lips and in the whole inner mouth; they break and discharge a quantity of liquid, impeding mastication, after which the affected parts peel off. If grease is with it, the animals become lame. If horses are attacked by this disease, it is much more violent. Tongue, palate and gums are hot and inflamed; the parts are covered with small blisters which break, discharging a profuse quantity of liquid, and causing so much pain that the animal is unable to chew even the softest feed, and has to perish of hunger.

Causes.—The fact that this disease spreads over whole herds, and from stable to stable, shows that it is not alone induced by contagion, but that the disease is likewise of atmospheric origin and of a miasmatic character.

Treatment.—If cattle, sheep and swine are attacked, give *Acidum sulphuris* and *Mercurius solubilis* one dose of each remedy every day. If the animals are unable to chew on account of the pain, give *Staphysagria*. If grease is present, see "*Grease.*" In the case of horses, the treatment should commence with a few doses of *Aconite*, to be followed by *Staphysagria*, *Mercurius solubilis* and *Acidum phosphori.*, and lastly *Sulphur*. If the animals are unable to chew, feed them on salt water mixed with meal. If the treatment of this disease is neglected in the case of horses, the disease is very apt to change to farcy. (See *Farcy.*) Repeat the dose every six hours.

Strangles.*

"This disease probably derives its name from a symp-

* Haycock's Manual.

tom which is occasionally present, in which the animal is threatened with suffocation."* "It appears to have had its origin in times when little more was known or thought about the disease than its evident tendency to *strangle* the patient, and from generation to generation has been handed down to the present day."†

"It is a disorder peculiar to young horses, and attacks them most frequently between the third and fifth year, though not unfrequently before this period, and sometimes after it, and now and then we meet with it in old horses. It used to be supposed that every horse became affected with it at some period of its life, and that it was necessary for the constitution, and a means of carrying off impurities. From the number of hands into which horses usually pass, it is difficult to ascertain whether they invariably become subject to this disease or not, and therefore this antiquated assertion is rather difficult to prove.

"The disease sometimes occurs at grass; and sometimes the symptoms are so mild that no treatment is required—at others so severe"‡ as to produce suffocation and death, unless measures of the most prompt and decisive nature are brought into immediate force.

Symptoms.—The symptoms which characterise strangles are different in some animals from what they are in others. One colt will be in full health to all appearance, as it were, to-day, and to-morrow he will separate himself from his companions, be spiritless, carry his head low, be affected with a slight soft kind of cough, and the

* White's Farriery, by Spooner.
† Percival's Hippopathology.
‡ White's Farriery, by Spooner.

appetite will be but very indifferent. In the course of a day or two, he will be found to gulp his water, and perhaps to have become more dejected, and in this state he may continue with little or no material alteration for six or eight days, at the end of which time a large tumor may have formed in the submaxillary space, which will have ripened and burst, and discharged a large quantity of thick purulent matter. From this he will regularly improve in spirit, appetite, and general appearance, until he is restored perhaps to a state of health better than he possessed previous to the attack. Such are the symptoms and the course pursued by the disease in the majority of cases which come under our care; others, however, occasionally occur where the animal appears as though he were blasted; he loses condition daily; his coat becomes dry, long, and staring, and his skin is as though it was glued to his ribs; he creeps about the hedges and about shady places away from his companions, where he can stand unmolested, and where he will remain for hours utterly indifferent to everything; if food be offered him he picks about it in a very languid and dejected manner, or he refuses it altogether; the pulse will be fifty or even sixty beats per minute; the mouth will be dry and foul, and the mucous membrane of the eyes, lips, etc., will present a faint yellow tinge. In this manner the animal may continue until he become so feeble and so much reduced that he would die unless light nutritious food were forced into him; generally, however, the disease takes what is called "a turn," which is manifested either by the sudden appearance and speedy development of an abscess between the jaws and around the region of the throat, or

otherwise by a gradual improvement to vigorous health without the formation of any such abscess.

Irregular strangles.—In other cases again the disease assumes what may be designated *Irregular strangles.* The disease commences and passes through its regular course; that is, an abscess forms between the jaws which ripens and bursts, after which all may appear to be going on pretty well, when a swelling manifests itself upon some other part of the body, perhaps upon the flank, or between the hind limbs, or upon the shoulders, or the breast, and between the fore limbs, and in some instances within and amongst the abdominal viscera; or this irregular form may supervene in two or three weeks after regular strangles has, to all outward appearance at least, subsided. The effects of this form are more to be dreaded than the other, inasmuch as the disease embraces a larger extent of the organism locally, also from its liability to attack internal viscera, or to attack the chest and burst internally, and also from the very tedious manner in which the abscesses form and ripen, supposing that the disease cannot be controlled without this latter effect being produced.

The following case of irregular strangles will give the reader a clearer idea of the subject than perhaps any remarks that I could otherwise offer upon it:—

Case of Irregular strangles. April 5th, 1850.—I was requested about three o'clock, P. M., to attend upon a mare, the property of Chas. Pitchforth, Esq., stone merchant, etc., of Boothroyd, Elland, near Halifax.

History, etc.—The mare I am called to is of a light chesnut color, stands fifteen hands two inches high, is rising four years of age. was bred by the present owner,

and is used principally for saddle and harness purposes. About four weeks ago she became affected with strangles; a tumor formed in the submaxillary space, in connection with other states peculiar to the disease in question, and for which she was treated by a practitioner who resides in the immediate neighborhood, who blistered the tumor, which in due course ripened, burst, and discharged healthy purulent matter. Soon after this, however, she began to exhibit disease of the breast; the part began to swell, and this swelling extended up the neck, and down between the fore limbs. The old attendant was again called in; but, in spite of his treatment, the mare daily became worse, and now for more than the last two weeks she has not lain down. About three hours ago he rubbed a stimulating embrocation upon the breast, and afterwards attempted to give her a draught; but, in raising her head for that purpose, the pain within the neck and breast became so much aggravated that the mare ran backwards and fell, and being unable to get her again upon her feet, the owner determined upon further advice, and my attendance was requested accordingly.

Present state.—1. The mare is lying fully extended upon her right side, and to all appearance, is very easy.

2. Pulse seventy-eight, and respirations thirteen per minute.

3. The lower half of the neck and the whole of the breast present one immense mass of swelling.

4. This swelling in every part is hard, hot, and unyielding.

5. Some parts of the swelling present to the touch centres of uncommon hardness, and these centres are

somewhat more prominent than the other parts of the swelling.

6. When I press upon this mass of swelling, it does not cause any particular amount of pain to the animal, unless I press with very great force.

7. The fore limbs are also swollen to a considerable extent.

8. During the last fourteen days the mare has fallen off considerably in condition.

9. The appetite is but very indifferent; but she will drink freely, particularly of milk.

10. It is with considerable difficulty that she can be made to walk a short distance; her fore limbs are placed wide apart; she advances them very carefully, and takes very short steps.*

11. If I attempt to elevate her head, pain is immediately evinced, and if I did not desist, she would reel backwards and again fall to the ground.

Treatment.—To have *Aconite* ten drops of the first attenuation in two ounces of water, the medicine to be given as follows: Mix it with about an ounce of bran, in a clean dish, and get her, if possible, to eat it—and eat it she did, and in this manner it was given her to avoid the possibility of throwing her down. A second dose of the Aconite to be given about nine o'clock to-night, and to-morrow to be repeated three times—one dose in the morning, a second at noon, and the third at night.

The neck and breast to be freely washed with warm water and soap, so as to remove as much as possible of

* I waited at the place two hours, at the end of which time the mare was assisted to rise.

the embrocation; the mare to be also comfortably clothed, the fore limbs to be repeatedly hand-rubbed, and to be fed upon boiled oats or boiled barley, or both alternately; milk to be also allowed to her as usual.

7th.—To-day the mare is very greatly improved; pulse forty-eight, and respirations twelve per minute; she is more lively, appetite improved, but she has not lain down since I last saw her; swelling of the breast much the same as last described.

To have *Arsenicum*, ten drops of the third attenuation in two ounces of water, to be given every morning.

Also *Belladonna*, five drops of the first attenuation in two ounces of water, to be given every night until further change be directed.

As the mare was a considerable distance from Huddersfield, and the owner promised to furnish me with information respecting her, I did not see my patient again until the

14th, when I found the improvement considerable; swelling of the breast very much reduced—much livelier, and eats very well; the centres of hardness in the breast which I have previously spoken of, have in a great measure disappeared, and now the entire breast is of one uniform hardness, and little or no pain is experienced if the head be elevated; pulse and respirations normal, but it is not certain as to whether she has yet lain down or not; she has the range of a large box, which is well littered with clean straw, and it cannot be ascertained for a certainty. To continue the medicine as before for about a week longer, and then to desist giving her any for six or eight days.

29th.—To-day Mr. Pitchforth rode the mare over to

my place, and I was so much astonished at the change which had taken place, that I will describe her state in detail, in order that the reader may judge for himself. Pulse and respirations normal; she is as lively as a kitten, lays down regularly and her appetite good; the swelling over the breast has entirely disappeared, but at the bottom of the neck is a tumour of about twice the size of a closed hand; this tumour is very hard, but is neither hot to the touch, nor in the least tender if pressed upon; the coat presents a fine silky appearance, and she walks and trots with the greatest possible freedom.

To have *Arsenicum* five drops of the third attenuation in two ounces of water, and *Hepar sulphuris* five drops of the sixth in the same quantity of water. The arsenicum to be given one morning, and the hepar sulphuris the morning following, and so on alternately. To be dieted as before, and also to be allowed a feed of oats now and then.

May 14th.—This day the mare was again brought to my place very greatly improved since I saw her last; the swelling at the bottom of the neck is reduced very considerably—it is now about the size of a goose egg; her general health is as good as can be desired; she is regularly worked in harness and for the saddle. To have *Arsenicum*, also *Hepar sulphuris* in water, to be given every alternate morning for twelve mornings. I sent, in fact, six doses of each kind of medicine. From this date I did not see the mare again for a period of two months, at which time she was thoroughly restored.

Causes of Strangles.—The causes of strangles are to a

considerable extent involved in obscurity. "It has been generally considered as a *constitutional* affection, because, like measles, small-pox, etc., it was found that few escaped it altogether, and that having had it once, the aptitude was supposed to be then destroyed. It has also been almost as generally believed that this *animal poison*, or innate disease, had arrived at its maximum, was thrown off by maturation, and that it was attended by a favorable change in the constitution."* I am also of opinion that the irritation which is produced upon the mucous membrane of the mouth from the changing of the teeth is, if not the sole cause, in many instances will at least be an important collateral one.

Treatment.—The best remedies in general for this disease are—*Aconite*, *Belladonna*, *Arconicum*, *Hepar sulphuris*, *Mercurius*, *Iodine*, *Ferri sulph.*, and *Nitric acid.*

The first step to be taken is to carefully examine the mouth of the patient, for soreness of the gums, loose molar teeth, and irregular growth of the teeth, and if such be present they must, if possible, be removed, after which the use of medicine must be resorted to, together with the adoption of such other measures as experience may have proved of essential service.

If the attack be of a mild nature, all that is necessary in such cases is to keep the animal warm and poultice the part where the tumor manifests itself (that is, when it manifests itself between the jaws and at the side of the neck), the proper mode of making the poultice, and of fixing it when made, are matters of such common

* Blaine's Outline of the Veterinary Art, p. 430.

knowledge that I need not dilate upon them. The poultice must be renewed every twelve hours until the abscess is ripe, when it may be freely opened with a lancet, the forefinger pushed into the opening, and the cellular bands within completely broken up, so as to liberate the purulent matter which may be contained within and around such bands of cellular membrane. Should, however, the fever run high, and the soreness of the throat be excessive—should the mouth be hot, and the difficulty of swallowing also excessive, attended with a flow of saliva from the mouth, as though the animal was salivated, *Aconite* and *Hepar sulphuris* are indicated, or a dose or two of *Mercurius* may probably be given with advantage; but if the mercurius should fail to afford relief after the second or third dose, then change to the *Hepar sulphuris*, at the same time aiding the growth of the tumor between the jaws in every way that is possible with poultices and fomentations. Use the aconite of the first dilution, in five-drop doses—the mercurius in grain doses of the first trituration, and the hepar sulphuris of the fifth, in five-drop doses.

Arsenicum, Iodine, and Aconite.—If the disease assume that particular variety which is attended with a wasting of the organism, without any perceptible cause, and where no tumour in any part can be detected, arsenicum and aconite are indicated, or otherwise arsenicum and iodine. The preference between aconite and iodine will depend upon the existence of fever; if the fever be considerable give aconite and arsenicum in alternation morning, noon, and night; but if the wasting be not attended with any particular degree of fever, which will be known by the slowness of the pulse and the coolness

of the skin, then use iodine and arsenicum in alternation, and steadily persevere in their use so long as the wasting continues, and the pulse and temperature of the skin do not indicate any particular degree of fever. Use the arsenicum of the third, aconite of the first, and iodine of the second dilutions respectively.

Tracheotomy.—Sometimes the disease assumes a very severe form and is attended with an inflammation of the larynx, and not unfrequently when so associated spasm of the larynx will supervene, and unless the trachea be opened upon the instant the animal may suddenly expire from suffocation. Should such a termination be dreaded, it will be better to have the patient at hand in order to meet the exigency. Spasm of the larynx is very liable to succeed if the disease manifest itself suddenly and the tumour be formed with great rapidity; or, on the other hand, if the formation of the tumour be tediously slow, and where it is probable that the deep-seated structures are involved.

Ferri sulph. and Nitric acid.—These remedies are indicated when the patient is past the acute stage, and when recovery to some extent has set in; but where debility is present, in which case one of these remedies should be given alone for a few days, then withhold it, and have recourse for an equal period to the other."

Sucking their own Milk,

Diagnosis.—Some cows contract the pernicious habit, while walking about, or even while in their cow-house, to suck out their own milk, which they succeed in doing by a peculiar twist of the body. Such a loss is of course at the expense of the owner.

Causes.—The habit arises in this fashion: The cow, after weaning the calves, sucks at animals that are near her, and finally at her own udder.

Treatment.—Place the cow in a box that is just wide enough for her to stand and lie in, with a front board to it that reaches up to the breast. Attach her at the same time to two chains, just long enough to allow her to lie down, but fastened in such a manner that the head cannot be brought close to the udder.

Surfeit—Itching of the Skin.

Diagnosis.—Horses and cattle frequently rub themselves against objects, or they scratch themselves or gnaw at their skin, so as to denude the parts and make them sore. Generally little pustules are felt under the skin, which gradually become elevated above the skin, and dry up, causing a mealy appearance on the skin, or else they discharge a humor which corrodes the parts and causes ulcers. The presence of vermin likewise causes animals to rub and scratch themselves, but this is different from the former, and the presence of vermin can easily be detected. See *Vermin* and *Mange.*

Causes.—This affection may be caused by a cold, and by other influences, or by suppression of an eruption, and is generally accompanied by constitutional psora.

Treatment.—A chief remedy is *Sulphur*, several doses a day. If a scaly eruption forms, give first a few doses of *Sulphur*, and afterwards *Staphysagria* and *Dulcamara.* If parts become denuded of hair, give *Natrum muriat.* and *Lycopodium.* If the parts above the eyes itch and become denuded, give *Agaricus musc.*, and, if the itching is owing to a cold, give *Aconite* and *Bryonia.* For itch-

ing and sweating give *Kali carbonicum*. All these remedies may be preceded by a few doses of *Sulphur*. Washing with cold water several times a day facilitates the cure. Repeat the dose three times a day.

SWELLINGS, *see Tumors.*

Swelling of the Eyelids.

Diagnosis.—The eyelids are swollen, and internally they are red and painful; sometimes both, and then only one lid is affected, shifting from one to the other; in the latter case the disease is more obstinate than in the former.

Causes.—Ophthalmia, internal disease.

Treatment.—*Sepia* and *Sulphur* generally help; *Ignatia* when the upper, and *Chamomilla* when only the lower lids are swollen. *Sulphur* in chronic cases, and to complete the cure.

Thick Wind.*

"Thick wind is an affection which is very apt to supervene upon an attack of influenza or bronchitis, or in fact upon any form of epidemic disease which may exert its force upon the air passages. It may also arise from gross condition. A horse is kept in the stable, whose work is but light, and perhaps even that is irregular; he is also fed improperly, and if taken out and driven in such a state his breathing, to use a jockey's phrase, "is as thick as a post."

Symptoms.—The symptoms of thick wind are easily

* Haycock's Manual.

recognized. The animal breathes heavily, particularly if ridden or driven in harness. Under the latter circumstances he will, on some occasions, fairly gasp for breath; he is the worst when travelling up hill, in which case he will frequently stop, and the breath will come out of his nostrils in voluminous masses; he also perspires very readily. It is seldom that he is affected with a cough; but a cough is present on some occasions. In other cases a cracking sound within the nostrils is heard, and a thin glary kind of mucus is discharged therefrom. If the ear be applied to the chest when the respiration is excited, the respiratory murmur sounds dull. In short, the whole appears, to use a simile somewhat rude, as though the machinery within was clogged with dirt and grease.

Trea'ment.—The best remedies for this affection in general are—*Arsenicum*, *Iodine*, *Sulphur*, and *Belladonna.* In these cases, the remedies require to be used either alone, or two of them in alternation, for a considerable period. On many occasions, where the disease was of long standing, I have given *Arsenicum* 3, in ten-drop doses, for two or three times a week, for several months in succession, and always with the best effect. In other cases, I have alternated the *Arsenicum* with grain doses of the first or second trituration of *Sulphur.*

Iodine is another capital remedy: use it in ten-drop doses, of the third dilution, twice or thrice a week, for two or three weeks together, then cease for a week, and give *Sulphur* or *Arsenicum* for the same period, in the quantities and of the trituration and dilution above named.

Belladonna is occasionally of benefit where the cough

is troublesome: use it of the third dilution—a dose now and then in place of one of the other remedies.

Timber toe.

Diagnosis.—This defect consists of a too vertical position of the tabia upon the postern, with contraction of the flexor and relaxation of the extensor-tendons. When walking, the sound horse bends the fetlock-joint a little outwards, so that this joint forms an obtuse angle; but, if this defect prevails, the hoof, fetlock, and tibia remain almost vertical, so that the horse is obliged to walk on his toes, and the burr-part of the hoof finally becomes even with the toes. In bad cases the fetlock-joint is quite rigid.

Causes.—Excessive straining of the flexor-tendons, causing them to swell and shrink. In young animals the disease may be caused by neglecting to cut out their hoofs.

Treatment.—In the beginning of the disease, a cure may be effected by allowing the animal rest, placing the fore legs higher than the hind legs, and using shoes without high toes, but terminating in a long projection, the end of which is turned upwards Bathe the flexor-tendons frequently with Arnica-lotion. In chronic cases give *Mercurius solubilis*, *Conium*, *Petroleum*, *Silicea;* use *Arnica*, *Rhus toxicodendron* and *Symphytum* as intermediate remedies.

Tinea faciei, herpes of the face.

Diagnosis.—Lambs, less frequently sheep, are sometimes attacked with a breaking out round the muzzle, eyes, and ears; the eruption consists of crusts, and is

accompanied by vesicles and little ulcers in the mouth, on the tongue, palate, gums, etc. Sucking and feeding are rendered difficult in consequence.

Causes.—Bad quality of the feed of the mother; close and damp stables.

Treatment.—*Sulphur*, when the eruption is only on the outside; *Acidum muriaticum*, *Acidum sulphuris*, and *Borax*, when there are vesicles and ulcers in the mouth. Give to the ewe a few doses of *Sulphur*, good, wholesome feed, and provide for clean, dry sheds, etc. Repeat the dose twice daily.

Tinea of the Manes

Diagnosis.—In the manes of horses a species of tinea not unfrequently develops itself, causing a frequent scratching and rubbing, so that the manes finally becomes dry and fall out.

Causes.—Want of cleanliness; constitutional taint.

Treatment.—After a few doses of *Sulphur*, give *Vinca;* the cure is completed by *Sepia* and *Sulphur*. The manes should be frequently washed with water.

Tubercles.

Diagnosis.—Such tubercles may break out on any part of the animal body, of various sizes and contents. They grow more or less rapidly or slowly, and are of all sorts. Compare "*Tumors and Swellings.*"

Causes.—Injuries, cold, internal taint.

Treatment.—If caused by external injuries, give *Arnica*, externally and internally; if caused by a cold, give *Bryonia* and *Dulcamara*. If breaking out in large numbers, of small size, give *Arsenicum;* itching

tubercles are cured by *Staphysagria* and *Sulphur;* obstinate tubercles by *Silicea*, *Ledum* and *Sulphur.* Repeat the dose twice daily.

Tubercular Disease.

Diagnosis.—This disease is peculiar to cows, less to bulls and oxen. Without any perceptible symptoms, the disease has probably commenced already in the interior of the animal. In cows the sexual instinct becomes more excited; and, if they are with young, they are liable to miscarry. A loose cough gradually develops itself, and, after a while, it becomes dry, racking; the eyes becomes dull, yellowish; the skin is dry, the hair is penfeathered and without lustre; the breathing is labored; the appetite continues fair. At a later period the strength, appetite and digestion decrease; tubercles make their appearance on the neck and on the chest; the animal is extremely sensitive to pressure in the præcordial region. Finally the animal dies of hectic fever. A post-mortem examination reveals in the membranes of the chest and abdomen, particularly the former, miliary excrescences and hydatids.

Causes.—The disease is known to be hereditary, but not contagious. It is particularly noticed among cattle which are continually kept in close stables, deprived of exercise in the open air, and fed on distillery swill, husks, and the like.

Treatment.—If such a disease is supposed to exist, the animal must no longer be fed on distillery swill and husks. Give a dose of *Baryta carbonica* every fourth day. A few doses of *Hepar sulph.*, followed by *Baryta carbonica*, have been found useful in the case of old

animals. If the sexual desire returns too frequently, give a few doses of *Aurum muriaticum*. If the cough is violent, give *Ammonium muriaticum*. If there are frequently-recurring paroxysms of cough, give *Spiritus sulphuratus*. Give *Silicea*, if pressure on the chest causes pain. *Lycopodium* when the breathing is labored. Give *Carbo vegetabilis* and *Mercurius vivus*, if the abovementioned remedies do not suffice. If the disease is no longer curable, and the abovementioned remedies do not produce an improvement, the animal, especially if it should be a sterile cow, may be slaughtered and the flesh may be used as nourishment without any inconvenience, provided it is sound. Of the selected remedy give five drops twice a day.

Tumors, swellings.

Diagnosis.—These are morbid growths or anomalous elevations on the animal body. They are at times globular, at others conical, at others again flattened. pedunculated or without pedicles; some are quite hard others spongy, others again contain some sort of fluid. These tumors are variously named according to their seat, shape and contents. The principal varieties are, a. *abdominal tumor*, which extends along the abdomen, and is painless and not hot; nor ought it to be confounded with ascites or pregnancy; b. *tumor on the chest*, of the size of a fist, hot and painful. In the case of a horse it is situated over against the heart, whence it is termed *anticor;* c. *swellings of the feet* are frequent among cattle and horses, more or less warm or cold; d. *swelling of the scrotum*, with fever, hot, and liable to cause unpleasant consequences; e. *swelling of the head*, may occur

of various sizes; f. *swelling of the sheath*, which is liable to become indurated by neglect. There are a variety of other tumors which will be or have been treated under their respective heads, such as: *Swelling of the eyelids*, *Encysted tumors*, *Quincy*, *Hernia*, *Ranula*, *Capped hock*, *Ganglion*. *Dropsy*, etc. If a tumor which had been hard and red, becomes more painful, soft and whitish, and grows smaller, it must be opened by appropriate means; if the skin is too thick, an incision may be made, after which the swelling has to be treated as stated under the article Abscess or Ulcer.

Causes.—All tumors are more or less depending upon the presence of constitutional psora. Swellings of the abdomen, chest, feet, scrotum, head and sheath, may arise from a cold, injuries, pressure of the harness, blows, a fall, etc., or may be sequelæ of some other disease.

Treatment.—In general, *Aconite* and *Bryonia* are the principal remedies for painful, hot and tense swellings when not caused by external injuries or pressure. Swellings caused by external injuries are cured by means of *Arnica*, and, if the bone is involved, by *Symphytum*, using it internally and externally. So-called cold, watery, not painful swellings are treated with *China* and *Arsenicum* in alternation, and, if depending upon some constitutional taint, with *Sulphur;* and, if they cannot be scattered, with *Hepar sulphuris* and *Mercurius vivus*. For swellings on the abdomen we give alternately *China* and *Arsenicum* and lastly *Sulphur*. For anticor we give a few doses of *Aconite* and *Bryonia*, and, if caused by pressure of the harness, *Arnica*, which may also be used externally. For swelling of the foot, if caused by a cold, we give *Dulcamara*, and, if very hot

and tense, *Bryonia;* if disappearing during motion, and coming on again during rest, we give *Rhus toxicodendron* and *Arsenicum;* if the swelling is situated near the fetlock joint, we give *Thuja;* if the hoof, horn or feet are hot, give *Squilla*, and, if the sole is painful, *Arsenicum.* For painful swelling on the knee we give *China*, and, if the swelling be painless, *Pulsatilla.* A swelling with rigidity of the limbs is removed by *Mercurius vivus*, followed by *Arsenicum.* For dropsical swellings we give alternately *China* and *Arsenicum.* If a swelling caused by injury, we treat it with *Arnica*, as mentioned above. Swelling of the scrotum after castration yields to *Aconite* and *Sulphur;* after contusion, *Arnica*, internally and externally; after great exertions, *Conium.* Swellings of the head which crepitates on pressure, and is cold, yield to *Belladonna;* dropsical swellings on the head yield to *China* and *Arsenicum;* if the swellings are hot and tense, give *Bryonia;* if hard and firmly adhering, especially on the lower jaw, *Baryta carbonica;* if numerous and tubercular, on the nose, *Ledum.* If the mucous membrane of the nose is swollen, give *Aurum.* A swelling of the sheath yields to *Rhus toxicodendron*, *Belladonna* and *Sulphur;* if very hot, to *Bryonia;* if the scrotum is swollen at the same time, to *Conium.* If attended with difficulty of urinating, give *Camphora*, and, if with frequent urging to urinate, give *Rhus toxicodendron* and *Sulphur.* In chronic cases a dose may be repeated every other day.

Tumors.

Diagnosis.—Tumors arise, a. from water in the chest or abdomen, the eye looks dull, the hair stands on end, the

breathing is at times very violent; b. they constitute an epidemic disease, with trembling, heat in the mouth, lachrymation, sadness; c. they are caused by colds. accompanied by sadness, loss of appetite, etc.

Causes.—Water in the chest and abdomen, cold, epidemics.

Treatment. — *China*, *Arsenicum*, *Lycopodium*, when caused by water in the chest and abdomen. *Aconite*, if epidemic, a few doses, afterwards *Rhus tox.*; *Arsenicum* and *China* in the case of mismanaged diseases, *Dulcamara* and *Causticum*, when arising from cold. Give *Nux vomica* in any of these cases, if the appetite is wanting.

Tumor at the point of the elbow.

Diagnosis.—This tumor is of various sizes, globular, sometimes growing to the size of a child's head; the swelling is soft and of more elevated temperature. At a later period the swelling becomes pendent, cold, insensible, sarcomatous, and filled with a yellow fluid.

Causes.—Pressure of the shoe against the knee, or pressure of an uneven pavement, while lying.

Treatment.—At first, give *Bryonia*, *Rhus tox.*, and *Chamomilla* for the tension, and afterwards *Sulphur* and *Arsenicum* for the swelling. If the swellings are full-grown, give the patient first a few doses of *Sulphur*, and afterwards a dose of *Mercurius* for eight days; then open the swelling at the lowermost extremity; then insert a little bit of christopher-root, which will purify the wound after a while, and the wound will heal and become covered with a new skin. After this, draw the root out.

Tumors in the eyelids.

Diagnosis.—They come out on the edges of the lids, of various sizes.

Causes.—Internal disease.

Treatment.—*Staphysagria*, also *Pulsatilla* and *Lycopodium* are useful; *Sulphur* to complete the cure.

Tumor, encysted, arcoma.

Diagnosis.—More or less round tumors, under the skin, resembling glandular swellings, painless, moveable, increasing more or less rapidly to a considerable size, enclosed in a cyst, on different parts of the body.

Causes.—Internal causes, which it is not always possible to define.

Treatment.—*Calcarea carb.* is a good remedy; *Graphites*, *Silicea*, *Mercurius vivus*, if *Calcarea* is not sufficient. If they do not disperse, they may be cut out with a sharp knife, and the wound may be bathed with Arnica-lotion. The dose may be repeated every other day.

Tympanitis.

Diagnosis.—This disease may befal any of the varieties treated of in this work; it sets in suddenly. The animals cease to eat, the abdomen swells perceptibly, the spine is curved upwards, the rectum is protruded, and the tail is raised; the breathing becomes oppressed and the eyes are protruded; the animals are in great pain and very restless. The horses paw the ground, kick, lie down frequently and then rise again, sweat; ears and feet are alternately cold and warm; they fall more and more frequently, and so suddenly that it seems as though the four legs were knocked from under them, and they

roll over. If the animals become suddenly quiet, if the eyes look staring, if the lower jaw hangs down and the whole body becomes cold: these are signs that inflammation has supervened which frequently ends in gangrene and death. In cattle and sheep the distention is sometimes so considerable that a sound is heard, when striking on the swelling, like that of a drum; if cold sweat, trembling and a vascillating gait set in, the animal soon falls down and dies of suffocation.

Causes.—Excessive use of fresh, succulent herbage, which inclines to ferment, and becomes still more hurtful, when wet or snow-burnt. Grains and malt, if eaten in excessive quantities, develop carbonic acid gas, and cause flatulence; weakness of digestion likewise brings about this disease.

Treatment.—The treatment has to be undertaken without loss of time. A few doses of *Colchicum* effect a speedy cure with all animals. If the disease comes on again, *Arsenicum* and *Nux vomica* have to be given alternately with *Colchicum*, a dose every four hours. If there be colic, in the case of horses, give *Aconite* and then *Arsenicum;* if they perspire, give *Pulsatilla*. In extreme cases, when cattle and sheep are attacked, use the trocar. Introduce the trocar with the canula into the left side four or five inches from the spine as well as from the hip, plunging it in as far as the edge of the canula, after which the stiletto is pulled out and the canula allowed to remain. The carbonic acid gas is gradually discharged through the opening, in which the canula has to be retained by pressing upon it with the finger; and, if it should become stopped up with food, it has to be freed from it by passing a little stick of wood through it.

Ulceration of the eyes.

Diagnosis.—Secretion of humor from the canthi, which becomes inspissated, and causes the lids to adhere. If the disease lasts a long time, the eye-ball becomes diseased, and looks as if covered with a white vapor.

Causes.—Sequel of ophthalmia; psora.

Treatment.—*Ledum*, *Arsenicum*, *Mercurius viv.* and *Staphysagria* are chief remedies; *Euphrasia*, if the eye is inflamed and mucus is discharged from the nose; *Conium*, if the eye looks white; *Sepia*, if the disease is epidemic in the place, as has been the case. Of the selected remedy repeat the dose every six hours.

ULCERS, see *Abscesses.*

Variola, small-pox.

Diagnosis.—Cattle, sheep, swine and dogs are liable to this disease. The animal is attacked only once during life-time. The disease is accompanied by violent fever, the pustules fill with a contagious matter, which is either of a simple or malignant nature. The simple form is preceded by a fever of some days duration, after which red tips, like flea-bites, in greater or less number, break out on various parts of the body, especially such as are not much covered by hair. In about five days after the appearance of the tips, they become changed to little pustules, surrounded by an inflammatory redness, which fill on the ninth day with a clear liquid that changes to pus about four days after, when the pustule begins to collapse, and a crust forms which, on falling off, leaves a cicatrix behind. This simple form of the disease runs its course in about twenty days. The malignant form is characterized b many peculiarities

At the very outset the animals are very sick, the pustules do not become raised, have a reddish-blue, brownish or blackish appearance, a blue or blackish border, run into each other, and the affected part is much swollen. If the head is affected, as is generally the case with sheep and swine, the animals are unable to swallow and the breathing is labored; a tenacious, fetid matter runs from the mouth and nose; the confluent pustules secrete a turbid, corrosive ichor, which occasions malignant sores, and frequently destroys eyes, ears, joints, etc. An intolerable stench emanates from the animals; they are attacked by diarrhœa, and frequently perish, or remain sickly and weak for a long period. Besides these two varieties, we have the spurious small-pox, characterized by irregular vesicles, pimples and pustules, which either contain a thin, watery fluid, or else are empty and hard like warts. This variety runs a rapid course unless, as is sometimes the case, new pustules break out after the former have dried up. Spurious small-pox is a comparatively harmless disease. It is well known that variola is a disease peculiarly appertaining to cattle. In cows the pustules break out on the udder. The genuine cow-pustules, the contents of which are used for purposes of vaccination, are round, of a blue-grey color, and surrounded by a red ring; they are of the size of a pea and larger, and contain a watery, somewhat viscous fluid. The disease is especially dangerous to sheep, for it is almost always of a malignant form. The pustules break out on the inner surface of the legs, on the abdomen and around the muzzle. Less malignant is the disease in the case of swine, where the pustules appear about the head, on

the abdomen and on the inner surface of the legs. In the case of dogs the pustules generally break out on the belly, and are rather infectious.

Causes.—The disease is always propagated by contagion. The small-pox virus is exceedingly diffusible in any kind of weather and at any period of the year; and, if the disease breaks out among a flock, every single animal that has not yet been attacked, generally catches the disease. The disease is most readily communicated by contact or by the exhalations of the diseased animals; the virus may be transmitted by men, animals, woolens, utensils, feed, &c.

Treatment.—All that is required to be done in simple or spurious small-pox, is to procure separate, dry, wholesome boxes for the sick animals, to drive them into the open air only in fair weather, and to give them good, wholesome feed. The least cold may prove dangerous. In malignant small-pox the diseased animals should be separated from the flock as soon as possible, and the healthy animals should be inoculated in the manner hereafter to be described, with the contents of a pustule. This inoculation shortens the course of the disease and renders it milder. The patients should be treated with *Arsenicum* and *Rhus tox.*, in alternation, a dose every six hours. If small-pox should be in the neighbourhood, all animals of the same species should at once be either vaccinated with matter from a pustule obtained by vaccination, or from a healthy pustule of natural, simple small-pox, filled with a clear, healthy lymph. For this purpose a few points of goose-quill, or fish-bone, may be inserted into a pustule, and the matter, after drying on these points, may be carried about in a

well-corked vial for the purposes intended. The best place to vaccinate is below the tail, a few inches from the anus. We use a needle provided with a sharp, grooved point, attached to a three-inch handle. If we wish to obtain matter from a pustule for immediate use, we insert the needle into the pustule, press upon the point, in order to catch a little of the fluid into the groove, and, after stretching the skin with the left hand, introduce the point horizontally under the skin, turning it about in order that the matter may be properly brought in contact with the parts. It is not well to insert the needle too deeply, lest the pustule on the skin should remain imperfect, or a malignant sore should be caused in the deeper tissues. Sheep should more particularly be guarded by this process, for the disease is more destructive to them than to any other class of animals. If the matter takes, a reddish tip shows itself on the fourth day, which gradually increases in size, and on the seventh day is attended with fever. On the tenth or eleventh day the tip changes to a pustule, surrounded by a reddish areola. On the twelfth or thirteenth day this redness commences to disppear, the pustule shrinks, and a scurf forms, which falls off between the sixteenth and thirtieth day, leaving a flat cicatrix. Animals thus protected, will not be attacked by the epidemic. If no pustule should appear on the seventh day, the animals have to be separated, and vaccinated a second time. It may be added that, if we wish to use matter from an animal affected with natural small-pox, we ought to carefully keep it away from the rest of the flock, lest the other animals should be infected, and the purposes of inoculation should be defeated.

Vertigo.

Diagnosis.—The animal suddenly stretches its legs apart, staggers, and finally tumbles over without consciousness. This condition continues for awhile, and epilepsy or apoplexy supervenes; or else, the animal rises again, shakes itself, and seems unconscious of having been sick, until the next paroxysm. Vertigo is distinguished from epilepsy by this, that the fore-legs are not spasmodically moved to and fro, as they are in epilepsy; and it differs from apoplexy in this, that pulse and respiration are weak, but not intermittent or irregular.

Causes.—Young, plethoric animals, are most liable to this affection; it is caused by rush of blood to the head; violent exertion in hot weather; blows upon the head, &c.

Treatment.—If caused by rush of blood, give *Aconite.* If the animal falls down, give *Aconite* and *Belladonna* alternately, and apply cold water to the head. If no improvement takes place within fifteen minutes, give *Stramonium* and *Cocculus.* If caused by blows upon the head, give *Arnica* internally, and apply *Arnica-lotion* externally. If the animal is attacked while in harness, remove it speedily, especially the yoke. Animals subject to this disease, should not be given any heating feed, and they should be frequently ridden or driven into cold water. Of the appropriate remedy repeat the dose every fifteen minutes.

Vertigo of Sheep.

Diagnosis.—This disease is most frequently observed in sheep, generally in stout lambs between the ages of three and twenty months; it occurs more rarely in

cattle. At first we perceive a vacillating gait, and great sadness, which changes to debility; the animals seem to have lost all consciousness, do not heed anything, and begin to go round in a circle, turning the head inwards, and continuing to move around in this manner until they fall down. After a longer or shorter interval, this circular motion recommences, and is carried on more and more rapidly until the animals become quite prostrate and die of prostration. We judge from these symptoms that hydatids have formed in the brain. These symptoms may likewise be caused by a blow upon the brain, which may induce concussion and even a fracture of the skull-bones. In this case the eyes glisten and protrude from their sockets, head and ears are hot and the appetite is entirely gone, which still continues somewhat, if the disease is caused by hydatids. If sheep are attacked by the disease, and they raise their heads frequently, and toss it about, with violent sneezing and profuse discharge of nasal mucus, and rubbing the head with their feet: we infer from these symptoms that flies have been deposited in the nasal and frontal cavities.

Causes.—a. Hydatids on the brain, even of the size of a hen's egg, and containing little bodies of the size of a millet-seed. The disease is hereditary. b. Injuries of the head. c. Maggots in the nasal and frontal cavities, arising from eggs which the gad-fly deposits in the nostrils of the sheep during the summer season.

Treatment.—The remedies should be given with reference to the causes. If given in time, *Belladonna* is excellent for hydatids, a few doses a day. If arising from injuries, give a few doses of *Aconite*, and some

hours after, give *Belladonna*, and bathe the head with *Arnica-lotion*. If caused by maggots, we cause the animal to inhale the vapor of burning *Sulphur*, or we inject a solution of ammonia into the nose, once every other day, by which means the white, black-streaked larvæ are suffocated, the animal is made to sneeze and the insects are expelled. If hydatids are the cause, and the disease seems too far advanced to admit of a cure, it is best to slaughter the animal, for the flesh is sound and may be eaten without any inconvenience. All attempts to cure the disease by rubbing strong ointments upon the skull, or burning it, perforation of the skull and sucking out the contents of the vesicles, or pricking them by means of a wire pushed up through the nostrils, are dangerous and of no use.

Vesicular epizootic.

Diagnosis.—This most frightful and contagious disease has destroyed, in the eighteenth century, upwards of three hundred millions of cattle in Europe, and about twenty-eight millions in Germany alone. It attacks an animal only once during life-time, and only cattle. Seven days after infection, the disease breaks out with the following symptoms:—Fever, indolent gait, red eyes, cough, restlessness, shaking of the head, stamping with the feet, gritting the teeth, continual moving of the tail; feeble animals are more dispirited than strong ones, the latter often act as if enraged. On the palate and gums vesicles and sores break out, appetite and secretion of milk disappear entirely, the lumbar region is painful to contact, and the legs are drawn back under the abdomen. From the third to the fifth day after the breaking out of

the disease, a crepitation is perceived under the skin; the eyes run, the breath is very fetid, and the violent and fetid diarrhœa soon brings on prostration. From the sixth to the eighth day the disease has reached its acme, and the animal perishes; few only are saved from this horrible epidemic. A post-mortem examination—which should be instituted far away from other animals, and at the termination of which every part of the carcass should be deeply buried in the ground—shows that the third stomach is very much distended, firm, filled with a large quantity of dry feed; if this is removed the skin adheres to it as if scalded. The stomach, paunch and the bowels are inflamed and partially gangrened, and the gall-bladder is excessively enlarged and full.

Causes.—This disease is communicated by means of a contagious miasm, but it is not original either in Germany or in the countries west of Germany. The miasm is introduced by war, commerce, and is afterwards carried about by animals, men, and even by veterinary surgeons. Experience shows that, in war, the disease becomes uncontrollable, and that that is generally found in the train of armies marching from the North and East westward.

Treatment.—It is much easier to prevent the spread of this disease by police regulations, than by medical treatment. If the epidemic is approaching, keep the cattle in the stable, have them well cleaned by some person who does not come in contact with diseased animals, keep the stable perfectly clean and sweet, to which end place an ounce of the chloride of lime, moistened with a little water, upon a plate in some part of the stable; stir it every morning and renew it every twelve days. This

quantity will do for a stable of two hundred and eighty-eight square feet; larger stables require a greater quantity. It is still better to dissolve two ounces of the chloride of lime in twelve quarts of water, to stir the mixture, and, after a white powder has become precipitated on the bottom of the vessel, to wash the animals with the liquid once every three or four days. If an animal should become affected, it is best to kill it at once, and to bury the carcass deep in the ground. If a number of animals are attacked at one and the same period, and a cure is to be attempted, they should be confined in a separate locality. The best remedy is *Bovilnum*. According to Lux, *Solaninum* and *Opium* are useful remedies. In the north of Germany, the matter which flows from the nose of a moderately infected animal has been used for the purpose of inoculating healthy animals, by which means the disease is said either to have been moderated or prevented.

Vomiting.

Diagnosis.—Hogs and dogs are inclined to this trouble. The animals exhibit signs of fever, restlessness, moaning, retching, loss of appetite; and, if the vomiting continue for a time, the animals become miserable, and finally die. Diarrhœa and constipation are frequently present. A little vomiting is sometimes useful, but becomes hurtful by its long continuance or recurrence, or when it is too violent.

Causes.—Derangement of the stomach in consequence of greedy or excessive eating, or by eating noxious food. Constitutional diseases.

Treatment.—If the vomiting is caused by overloading

the stomach, the trouble generally ceases of itself as soon as the stomach is emptied. If the retching and vomiting continue for a time, give *Veratrum album* and *Antimonium crudum*, and, if no improvement take place, a few doses of *Cuprum*. Repeat the dose every half hour.

Warbles.*

"Warbles is a very common affection, and coarse bred horses are the most subject to them, particularly the heavy breed of draught horses. The affection is so well known that a description is superfluous. The disease prevails most during the summer months, at which time warbles are a source of great annoyance to some horses; they appear about the shoulders and upon the back of the animal principally, and I think that the malady is produced upon the skin by the presence of the rough woolen cloth which is used to line cart horse saddles and collars.

Treatment.—The collar and the saddle must be re-lined either with strong linen or with leather—leather is the article most to be preferred. It can be washed frequently, and rendered cool to the skin; after which arnica-lotion may be used to the sores, at the same time giving arnica 1 and sulphur of the first trituration internally. Sometimes a wash composed of vinegar and water proves a benefit. Split beans, or bean meal, should be kept away from the animal for some days until the soreness has disappeared. Sometimes a dose or two of *Arsenicum* 3, given in alternation with *Sulphur*, is productive of benefit."

* From Haycock's Manual.

Warts, Wens.

Diagnosis.—Stallions, cattle, and young animals are principally affected by these excrescences. Some of them are seated on a large base, some are attached to pedicles; they are of various sizes and qualities, round, flat, smooth, dry, hard, breaking, and painless, shaggy, crusty, soft, spongy, humid, suppurating and painful. Sometimes they are isolated, at times in clusters. The humid warts, which bleed readily, or those that are shaggy, crusty and of unpleasant appearance, frequently grow to an enormous size, and are termed *figwarts.*

Causes.—They may arise from pressure, friction, etc., or from internal disease, especially when they break out in large numbers.

Treatment.—Dry, smooth warts without pedicles, are removed by *Dulcamara;* clusters of small warts, especially on the lips, yield to *Calcarea carbon.;* figwarts to *Thuja*, alternately with *Sepia;* the warts may also be moistened with the tincture of *Thuja.* In obstinate cases a dose of *Sulphur* may be given now and then. For ulcerated warts give *Arsenicum*, and if they bleed readily and cause pain, give *Causticum.* Pedunculated warts should be tied close to the skin with a silken thread that is waxed over, after which they will wilt and fall off. Give a dose of the appropriate remedy every other day.

WIND, BROKEN, see *Broken wind.*

WIND, THICK, see *Thick wind.*

WET PACKING, see page 256.

Worms.

Diagnosis.—We discover various kinds of worms in the bowels of domestic animals; lumbrici, ascarides and tænia. Lumbrici are whitish; they have round bodies, but somewhat flattened at both extremities. They sometimes are agglomerated in clusters, sinking at the bowels, and occasioning an irritation which causes the animal to draw in the flanks more frequently. Ascarides are principally seated in the rectum, where they cause an itching, inducing frequent rubbing of the hind-quarters. Tænia resides in the small intestines. These worms have a ribbon-shaped appearance and often grow to an enormous length. The animal exhibits jerking, anxious, spasmodic motions. Horses are frequently tormented by a species of worm half an inch long, of the size of a goose-quill, short jointed, of a reddish color; they are often found in enormous quantities in the stomach. These are the larvæ of the horse-fly, which deposits its eggs in the nostrils of the horse; it is here and in the stomach that the worms come to life, and are frequently ejected with the dung; several of them may often be seen hanging at the anus. They are apt to cause colicky pains, making the animal kick with the hind feet, sometimes against the abdomen, sometimes backwards. There are various other varieties of worms, but the cure is the same. We have already treated of several worm-diseases, such as vertigo of sheep, cachexia aquosa, gad-fly, hydatids, jaundice, etc. Other worm symptoms are: dim, watery and pale eyes, the inner membrane of the nose, lips, tongue and palate looks pale, the animal eats tolerably, but is emaciated, drawing of the flanks; *Petroleum* for lameness of the

restless, especially when the stomach is empty, turns its lips inside out, the dung has a fetid odor; these symptoms, however, are not infallible; the only sure sign of the existence of worms is their actual discharge from the bowels.

Causes.—Worms are always occasioned by morbid conditions such as morbid secretions of mucus, debility of the digestive organs, morbid condition of the liver and lungs. Whatever is calculated to develope such conditions, may be looked upon as an exciting cause of worms. Worms are only dangerous, if the animal is impoverished, badly-fed, debilitated, emaciated.

Treatment.—A good many symptoms which are supposed to be caused by worms, are owing to some constitutional disturbance, during which worms multiply to excess. If worms are suspected, the first thing to do is, to give the animal sound, nutritious feed; this alone will cause a diminution of the worms, and facilitate the operation of the medicine. If the animal grows thin, and we are not quite sure whether the loss of flesh is owing to worms, we give *Ipecacuanha* and *Antimonium crud.*; if this does not help, and a fetid diarrhœa sets in, we give *Pulsatilla*, and if the diarrhœa continues, *China;* if constipation is present, we give *Nux vomica* and afterwards *Sulphur.* If worms are discharged from the bowels, give *China*, which is a principal remedy for worms, and afterwards two doses of *Sulphur* a week. We may derive benefit from *Alumina*, in alternate diarrhœa and constipation, and tenesmus during an evacuation of the bowels; *Magnesia muriatica* for the above worm symptoms, with periodical constipation; *Sepia*, when the evacuations are preceded and succeeded by

joints. If the animal is affected by tænia, portions of the worm are discharged now and then. If this treatment does not succeed, give *Filix mas*, or, in obstinate cases give a dose of *Sulphur* a few mornings in succession, and afterwards *Mercurius vivus;* then again *Sulphur*, and so on. Afterwards a few doses of *Calcarea carb.* will be sufficient to expel the animal. In worm-colic give a few doses of *Aconite;* one hour after, give *China*, and if this is not sufficient, give *Mercurius vivus.* If this proves inadequate, give *Sulphur.* In a case of worms the appropriate remedy may be repeated every morning or evening.

Wounds.

Diagnosis.—Animals are not unfrequently exposed to lesions of the soft parts, in consequence of which blood is lost. Wounds differ in size and importance, according as the wounded part is more or less necessary to life. Cut wounds have no shaggy edges, and, on this account heal most rapidly. Stab-wounds do not seem very considerable on the surface, but most important parts may have been injured in consequence, and they may prove incurable. If a bowel have become cut, blood is generally discharged from the anus, or the contents of the bowel ooze through the external wound. If the parts around a stab-wound soon begin to swell, bloodvessels and intestines have become injured, and extravasation of blood takes place. Gun-shot wounds act in the same way. Wounds which are caused by blunt and rough bodies, have a shaggy and gaping appearance. Such wounds, or wounds of considerable extent generally commence to suppurate on the fourth or sixth day, new granulations start up and the wound heals. If the

belly should be ripped open and the bowels protrude from the wound, we have to examine the bowels and find out whether they have been injured, before replacing them. If the bowels are injured, and the flesh can be used for the table, it is best to kill such animals at once. If an artery is wounded, and the blood spirts out like a jet, the artery should be tied at once; if a vein is injured, the blood oozes out in an uninterrupted, uniform flow. Extensive wounds are accompanied by fever, commencing with a chill followed by heat and thirst. The intensity of the fever depends upon the degree of inflammation developed in the wound. In many cases proud flesh forms in the wound; this is a dry, spongy, pale-red excrescence which projects beyond the edges of the wound, and bleeds readily when touched. In the summer season, if a wound is not well taken care of, maggots form in the wounds which cause a pain and sometimes considerable itching.

Causes.—Wounds may be caused by a variety of circumstances, tearing parts by nails, cutting, stabbing, while shearing animals, or they may injure themselves by rubbing against a sharp body, or stumbling against it and ripping chest or bowels open; wounds may be inflicted by blows, by falling on hard and rough ground, or by accidental shooting.

Treatment.—Cleanse the wounds of all foreign bodies, and then dress them in an appropriate manner. If bits of iron, wood or glass, sand, shot, etc., have got into the wound, wash it with water, for which purpose a syringe may be used, if necessary, in order to remove everything from the wound, as nearly as possible. Afterwards apply rags soaked with *Arnica-lotion*, in order to keep

off the air, and renew the rags as often as possible. Superficial wounds heal very easily in this manner; the healing of cut-wounds is favored by bringing the edges together by means of adhesive plaster, or by stitching them together, for which purpose a needle and thread is passed through the skin about half an inch from the edge of the wound, and carry the thread across the wound; to the opposite side, it is passed from within outwards at the same distance from the edge of the wound, and afterwards the two ends are tied above the wound; as many of these threads may be used one next to the other as are required to unite the edges of the wound. In deep wounds, injections of *Arnica* have to be made, and the healing of the edges has to be prevented, lest deep-seated suppurations should set in. Protruded bowels are first washed with tepid water, and then replaced, after which the wound is stitched together as here mentioned. If a bone is injured, *Symphytum* may be used internally and externally. Wounds from pressure and contusions are treated alternately with *Conium* and *Arnica*, and if strains or sprains are present, we use *Rhus toxicodendron* and *Arnica* alternately. If there is hemorrhage, apply cold water, tying the arteries that may have been wounded. For fever give *Aconite*. If proud flesh forms, sprinkle it with sugar, and give internally *Chamomilla*, *Sepia* and *Arsenicum*. If the pus is thin and fetid, give *Asafœtida* and *Mercurius vivus*, and for thick and badly colored pus, *Silicea*. Maggots have to be wiped out, and the wound is greased over with tar to prevent the formation of this vermin. See "*Burns, Castration, Sprains, Fractures, Fistulæ, Contusions, Clicking, etc.*

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